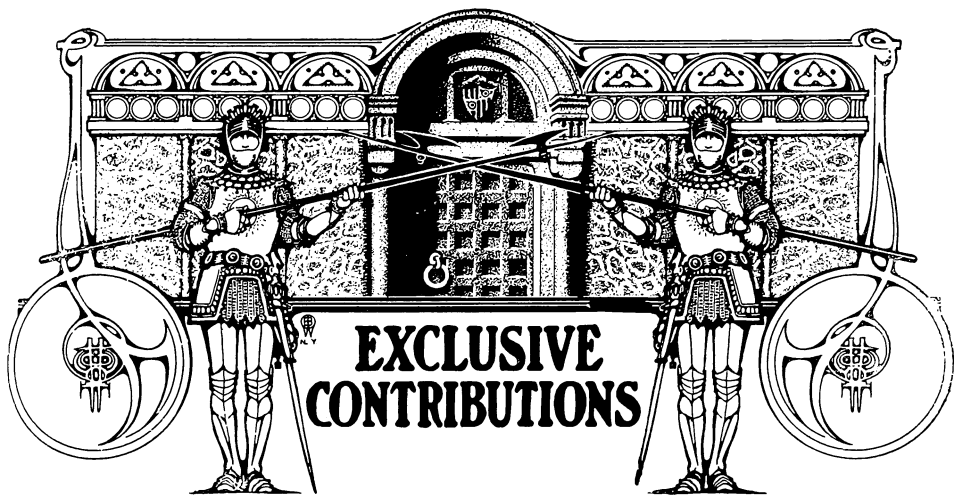


*Chas. Allerton*



## **A Critical Consideration of the Indirect Method of Making Cast Gold Inlays.\***

By HERMAN E. S. CHAYES, D.D.S., New York.

The problem of making a Taggart cast gold inlay by means of the impression or indirect method should really not be considered as a problem by itself, because as such it at present admits of no solution worthy of the name.

If the indirect method be used at all it should be but as an accessory step in the direct method, and should be employed in cavities so inaccessible and under circumstances so remote that the infrequency of these conditions would in themselves unfit the operator for its use.

Some disto-occlusal cavities in third molars may call for the indirect method as an aid to the direct, but under no circumstances should reliance be placed on an impression of such a cavity to the extent of completing the inlay upon a die made from this impression without giving the wax its final shape in the cavity itself.

The very name which the advocates of this method have given to it, namely, the "indirect method," in itself stamps it as something remote, far off, labor and time-consuming and energy-wasting attempts to have a substitute assume that part of the constructive work in the laboratory which should be done directly in the mouth.

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## ITEMS OF INTEREST

These advocates who claim satisfactory results from their procedure are being misled by burnished margins of their inlays; they lose all frictional relation between their product and the cavity it is to occupy, but they honestly overlook the fault, grave though it be, because the method shifts responsibility and gains time for the operator.

The fact is, that if no better inlay could be made than the best which have been made to date by means of the indirect method, the entire process of cast gold inlays would be a mediocre palliative measure, instead of the greatest boon to the dentistry requiring public, and if that had been the best it was possible to obtain I doubt much if it would ever have been given to the profession at all.

The first step in the construction of an inlay is to take a perfect impression of the properly prepared cavity.

If the direct method is to be employed, that impression must be taken with the inlay wax.

If the indirect method is to be employed the initial impression is taken in modeling compound.

The most persistent argument of the advocates of the indirect method is that they cannot get a proper pattern of the cavity when using the direct method; in other words, they cannot get a perfect impression of that cavity in inlay wax.

If that is true, how is it that they can get what they consider a perfect impression with a compound not nearly so reliable in its physical properties as is the wax which they should use?

When the direct method is employed, the margins of the cavity in the tooth are an ever-present help to thorough work, and an ever-present deterrent to the slipshod, "just-as-good" results.

Once the margins are obtained, the major part of the carving may be done outside of the mouth and the wax inlay replaced from time to time to insure correctness of manipulation.

Proper occlusion may be obtained beyond the question of a doubt, and that without the additional work of taking a worthless bite in a filmy piece of wax and without taking an impression of the affected tooth, carrying the compound impression of the cavity and of the surrounding area for a guide to the desired correctness.

The answer is made that, while all these steps are necessary, they may be done in the laboratory. Here creep in the great mass of errors which follows the use of such materials as compound plaster, amalgams, variation in mass, temperature and physical structure in the hands of a laboratory assistant, who can only begin working upon, and with these materials, after the errors come into existence. All these combine to give a result not looked for, and this result is made to assume a semblance

to the one required by using the burnishers freely, and the good or fairly good margins mislead them all.

They who admit their incapability to take an accurate impression of a cavity in inlay wax have never familiarized themselves with its physical properties and should start right there; let them study the wax, its physical properties at the various temperatures and its adaptability, its toughness, etc. Work it carefully, use it as if it were alive, vibrant, responsive, for it has in it all the things that give life and responsiveness put in there by the thoughts of the great Master, and then let these indirect method men compare their results at the time at hand with those of the time past.

The advocates of the indirect method obtain an impression of the cavity for which they expect to make an inlay and they construct a die upon and into this impression; the result is a partial model of the tooth to be inlayed, the partial model being made of amalgam or cement, preferably the former.

Some proceed to form the wax inlay in this very die which is equivalent to making a complement to the human anatomy without having that part which is to receive the complement before you in its entirety.

They guess at bulk, width, length and contour, and if they guess correctly the indirect method is a success, and they proceed to give it to what they designate as the rank and file of their profession.

Now, let me ask this of the rank and file and of the layman:

"What would we be likely to think of a man who tried to supply a part of one finger of a hand without having the whole of that hand before him all through the operation? Would we consider him correct?"

Of course not, because he will have constructed the complementary portion without due reference to the whole; without having at his disposal a comprehensive view of that with which the complementary part must ever interplay and harmonize, and so the least that these indirect method advocates should do is to have before them a complete model of the tooth. Some of them, realizing this, obtain a wax bite indefinite and inaccurate, and, so to speak, plant this die into the wax bite, filling in the rest of it with plaster. Too often or almost always a macroscopic shift takes place and multi-microscopic errors are the result.

They are also prone to harp upon the subject of gold and porcelain inlays as if the problem were one, ignoring purposely or otherwise the fact that there is no comparison between the two, except that both act as fillings or inlays for teeth.

The preparation of the cavity is wholly different; the physical properties of the material wholly different; the method of construction after

## ITEMS OF INTEREST

obtaining impression and die are wholly different, and the problems or obstacles in the way of making porcelain inlays for posterior teeth by the use of the direct method are many times greater than when we are working in gold.

So, in justice to themselves and to the art, and for the sake of those who read and wish to learn, they should be more carefully accurate in their statements and less confusing to the learner. They speak of the advantage of the indirect methods in case of failure at time of casting, ignoring the fact that they (with emphasis on the they) have a failure as the result of every so-called successful casting.



Fig. 1.

If they tested the machine before every casting; if they were always careful to properly mix the investment and to always duplicate that proper mix; if they took the time to learn how to properly manipulate the wax; if they were careful to note the boiling point of the gold which they were using for their casting (which is considerably different from the fusing point); if all their materials were clean, and if with all the foregoing they used the direct method, they would not be called to even consider the possibility of failure.

They say that the great Taggart (and they are careful to say "great") and a few of his closest followers, "perhaps" (note the perhaps), can do the work by the direct method and show perfect results. Thus they convict themselves by admitting that they have not followed the great Taggart. Thus they admit the perfect results of Taggart and his close followers, but they advise the rank and file of the profession to follow them, even though they qualify their results as but fairly accurate.

If Taggart obtains perfect results (which they admit), and if the close followers of Taggart obtain perfect results, and if it is perfect results they are trying to obtain, clearly the easiest and surest way is for them to follow the directions of him whom they are pleased to call the great Taggart, and whose directions they have been persistently trying to confuse and obscure for the rank and file of the profession.

They are, of course, wasting their time and the time of those who follow their indirect methods, and it may not please them much to contemplate the fact that a waste of time is a waste of life.

We shall, because of the foregoing, take up the indirect method of making a wax inlay, only as an accessory to the direct, remembering that the wax must be given its final shape and fitting in the tooth cavity itself.

**Hinged Trays  
for Taking  
Cavity Impressions.**

With this end in view, the hinged and perforated trays here illustrated were constructed in their various sizes, and in respect to the tooth forms for which they were made they are universal in application.

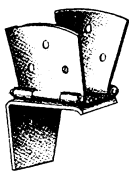


Fig. 2.

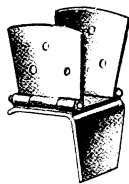


Fig. 3.



Fig. 4.

We have ten trays for the upper molars divided as follows:

One right upper for mesio-disto-occlusal (Fig. 1).

Two right upper for disto-occlusal (Fig. 2).

Two right upper for mesio-occlusal (Fig. 3).

One right upper for bicuspid for mesio-disto-occlusal.

One right upper for bicuspid for disto-occlusal.

One right upper for bicuspid for mesio-occlusal.

The bicuspid trays are similar to the molar trays, but correspondingly smaller.

Several hinged trays, as illustrated, are made for use upon anterior teeth when occasion demands (Fig. 4).

These trays enumerated for the right upper are duplicated for the left side of the upper maxilla, except that the trapezoidal angles are changed to conform with the anatomical requirements.

Only half of the number of trays is required for the lower molars, for what will serve for a disto-occlusal cavity on the right side may be used for a mesio-occlusal on the left, and so but two mesio-occlusal and two disto-occlusal, and one mesio-disto-occlusal trays for the molars will be necessary.

## ITEMS OF INTEREST

We shall need one mesio- and one disto-occlusal tray for the second bicuspid and the same number for the first lower bicuspid, right and left.

Also two sizes of hinged trays for each anterior lower tooth may be made. Right and left being interchangeable, only six trays will be required for that region.

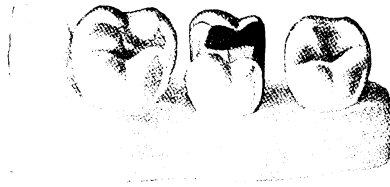


Fig. 5.

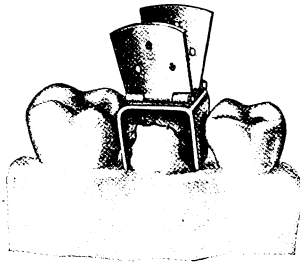


Fig. 6.

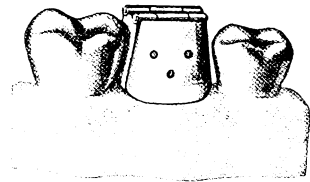


Fig. 7.

### **Method of Taking Cavity Impressions.**

When it becomes necessary to obtain a reliable impression of a properly prepared cavity (Fig. 5, a mesio-distal occlusal cavity) the corresponding tray is selected, and that part of the tray which is contiguous, or not hinged, is filled with a small quantity of modeling composition, softened in the Bunsen burner; care is to be exercised not to burn the compound.

The two-hinged portions of the tray are lubricated, inverted, and used as a handle. The compound carrying tray is now carefully brought over the tooth and centered, then with a direct pressure upward (or downward, as the case may be) the cavity is filled and that part of the tooth enveloped in the soft compound.

Because of the unyielding tray, the impression material will be forced against the margins of the cavity, while the surplus will be expelled buccally and lingually (Fig. 6).

The two hinged wings of the tray, previously lubricated, are quickly closed upon the buccal and lingual side respectively, and the surplus of the compound is held against the tooth under pressure.

A stream of cold water directed upon the tray will chill the compound.

The hinged wing upon the lingual or palatine surface is again inverted, and the surplus compound is cut away with a sharp lance. That surface of the tooth is lubricated with white vaseline, a small piece of softened impression material is placed upon the inner wing of the tray, and while the tray itself is firmly held in position the wing is closed down upon the tooth surface and moderate pressure is applied.

A stream of cold water will accelerate the hardening of that surface, and the hinged wing upon the buccal surface is subjected to the same manipulation, that is, it is inverted, the surplus cut away, the tooth surface is lubricated and a piece of softened impression material is placed upon the hinged surface when it is again closed down and forced to place. Again a stream of cold water accelerates hardening of the compound (Fig. 7).

Whatever surplus of compound may show gingivally may be removed with a sharp lance, and we are now ready to obtain an impression of the surrounding teeth, a model from which impression may give us our cavity and its rightful environment.

It will be necessary to keep the saliva ejector in the patient's mouth in order to carry off the water used in chilling the compound.

A unilateral tray for the particular side of the mouth is selected. A mix of plaster of Paris of the consistency of thick cream is placed into it, and the tray plus plaster is quickly carried to the side of the mouth and carefully forced to place.

**Obtaining Model  
of Adjacent  
Teeth.**

The plaster is given from five to ten minutes to set, and a spray of cold water is directed upon it while it is setting, when the cup is removed and the plaster impression carefully broken away from the tooth. The buccal or labial portion is first removed by placing the index finger of one hand under the plaster buccally and keeping the index finger of the other hand upon the morsal surface of the impression.

The patient is then directed to open the mouth much wider, the index finger under the buccal side of the impression is rotated toward the oral cavity, and usually no difficulty will be experienced in the removal of that part of the impression.



## ITEMS OF INTEREST

An upward or downward pressure upon the lingual part of the impression will readily dislodge that portion of it, and so we may gather all parts of the plaster, to again reassemble them in the cup after they have been allowed to become moderately dry.

Our compound carrying tray will be found still in perfect position upon the tooth requiring the inlay.

All evidence of plaster is now removed and the outer or buccal hinged part of the tray is again inverted, as is the lingual or palatine.



Fig. 8.

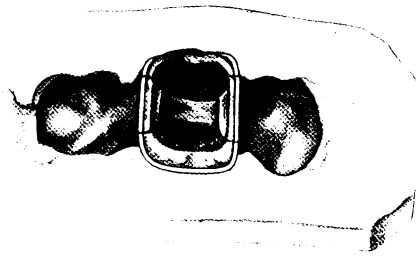


Fig. 9.

Grasping these two hinges mesio-distally, the rest of the impression will come out and may be brought to full view outside of the mouth.

Again the two hinges are replaced into their respective position and we shall have an impression of the entire tooth for which we are about to make a metallic complement (Fig. 8).

The plaster impression is now assembled with the metallic cavity impression in place. Because of its peculiar position within the plaster impression the tray carrying the compound impression of the cavity will be immovably fixed. More plaster is added to the plaster impression in order to strengthen its walls (Fig. 9), all of the plaster is varnished, and we are ready to pack the amalgam within the compound impression so as to form a die reproducing the tooth which requires an inlay.

### **The Making of the Amalgam Die.**

For making the die, either a silver or copper alloy may be used. The writer has been able to obtain much more clearly defined margins and outlines with a copper alloy, and would therefore commend it for this purpose. It is also much harder and not nearly so likely to become subject to inaccuracy by distortion.

A quantity of the alloy, varying directly as to the size of the case,

is placed in an iron spoon and carefully heated over the Bunsen flame until the globules of mercury appear upon the surface of the small copper amalgam briquettes.

The mercury exuding mass is now thrown into a wedgewood mortar and thoroughly macerated under the pestel. This maceration is kept up until the mass seems and feels smooth. If the mix appears thick, more mercury must be added, so that a thin and readily flowing mass may be obtained. The wedgewood mortar is now upset upon a sheet of manila paper, and with a stout, broad spatula of German silver, or a polished steel knife, the amalgam is spread over the largest possible area of the paper in a thin film, and considerable pressure is used to make certain the smoothness of the mass.

When this has been attained the amalgam is divided into three portions. The first portion should be large enough to cover all margins as well as the seat and walls of the cavity, the second portion about twice the size of the first and the third portion about again as large as the second.

The first portion is now placed in a piece of chamois and twisted up into a ball. A part of the mercury is expelled by twisting the chamois, but under no circumstances must too great a pressure be applied, as that will make the mix unfit for use at this stage.

Pointed instruments, the points of which have been rounded, are then used to place the soft amalgam in apposition with every margin, wall and seat of the cavity, and when that has been accomplished, smooth, flat plugger points are substituted for the pointed instruments, and the amalgam is patted down into every portion and up to every margin of the cavity impression.

The second portion of amalgam is now placed in a piece of chamois and the chamois containing the amalgam is twisted into a ball. A proportion of the mercury greater than was expelled out of the first portion of amalgam is now expelled out of the second portion; in fact, this must be fairly crisp to be fit for use.

Large ball and egg-shaped burnishers are used to place this crisp mass over and into the amalgam already present in the impression. It will be noted that under constantly applied pressure the newly added mass will take up the excess of mercury from the mass first placed into the impression.

Finally, the third portion of amalgam is placed in the chamois, and subjected to similar but greatly increased pressure, so that nearly all the mercury will be expelled and the amalgam becomes quite hard and but just workable.

With large, flat packing instruments this mass is now gradually and

## ITEMS OF INTEREST

with constantly increasing pressure and a rocking motion placed into and onto the rest of the amalgam.

The excess of mercury, if any be present, is removed by burnishing several layers of tin foil over the flat surface of the mass, and with a flat, chisel-end instrument, an irregular recess, equal in depth to about one-third of its greatest diameter, is sunk into the mass of amalgam.

The plaster impression carrying the hinged tray and compound impression which contains the amalgam which has been introduced, is now laid aside for at least twelve hours to give the amalgam an opportunity to thoroughly crystalize.

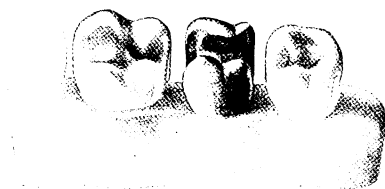


Fig. 10.

The next step should be the immersion of the amalgam carrying impression into water, and the filling in of the rest of the impression with plaster of Paris. After this has set, the impression tray is freed from surrounding plaster, the plaster impression is carefully broken and cut away exposing a plaster cast carrying the hinged tray and compound. The cast is now inserted into water at a temperature of 135 to 140 degrees F. for about two minutes, when the hinged portions of the tray may be easily inverted and all of the compound impression removed from amalgam tooth and cavity.

We have now before us a plaster cast, securely carrying a complete copper amalgam reproduction of the tooth requiring a cast gold inlay (Fig. 10), and if the directions prescribed above have been faithfully followed, the cavity in which the wax inlay is to be formed may be used as a working base upon which the preliminary carving may be done.

A wax bite previously secured from the patient's mouth, is now mounted upon the plaster cast which carries the amalgam tooth, and the opposing teeth are secured by filling the wax impression on the reverse side of the wax bite with a mix of plaster of Paris. The correct articulation is thus obtained.

When the plaster has set, the articulator carrying the models and

bite is immersed in hot water, and the wax bite is removed, disclosing the amalgam tooth in the correct relative occlusal position to the opposing teeth (Fig. 11). All of these opposing teeth are now thoroughly varnished with a thin solution of sandrac and this is allowed to harden.

**Making the  
Wax Pattern  
for Gold Inlay.**

We are now ready to make our wax inlay for the cavity.

A cone of inlay wax of suitable size is made ready for use by softening it in hot water.

This softened cone of wax is forced into the

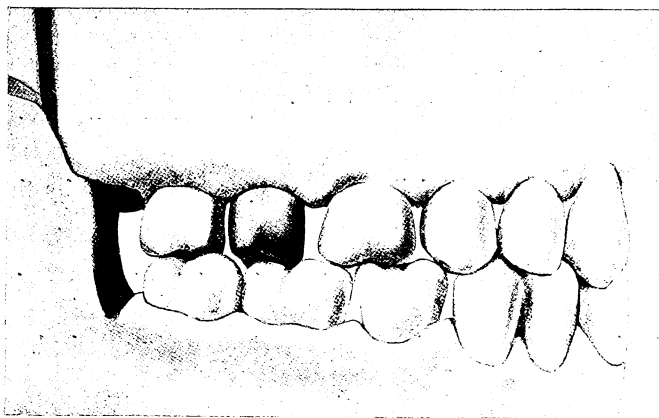


Fig. 11.

lubricated cavity of the amalgam die.

While the wax is under the influence of finger pressure, it is chilled and held in this position until it has hardened; then the pressure is removed.

All we are concerned with at this stage of the operation, are the margins and seat of the cavity, and the approximation of the wax to this seat and margin.

With the proper carvers and flat burnishers, right and left, all but the occlusal surface of the wax inlay is completed at this time.

A stream of cold water will thoroughly harden the wax and a jet of cold air will dry it. A ball burnisher is now heated in the Bunsen flame and the unfinished morsal surface is softened centrally; that is, the hot instrument is allowed to enter the wax inlay about half-way down into the body of it, care being exercised not to allow the heated instrument to work through the wax onto the seat of the cavity or up to the margin of it.

The varnished and faintly lubricated opposing teeth are now allowed

## ITEMS OF INTEREST

to descend (or ascend) upon the wax in order to designate the landmarks of occlusal carving.

A close study of tooth anatomy should be made by the inlay worker with a view to correct reproduction of tooth surfaces in general and of the occlusal surface in particular. The sulci and deep fissures; the extreme cusp elevation; the important marginal ridges, functioning in their capacity as guardians of the interdental spaces; all these must be carefully reproduced in outline, but not in bulk; in other words, the important thing to bring about is an exact reproduction of that part of the tooth which is lacking to make it a perfect dental organ, but the complemental portion and wax must be so much greater in all surface areas as the amalgam cavity with all its surfaces, seat margins and angles is smaller than the cavity in the tooth.

The variation between the tooth cavity and the die cavity in size is but microscopic, and scarcely appreciable through the eye. Nevertheless, it is sufficient to spell failure for every casting made by the indirect method, unless this means is taken to overcome the defect.

The articulator and models which carry the inlay are put aside until the patient appears for the next sitting. The inlay is removed from the die, mounted on the cork which carries a banker's pin, the pin being inserted where the screw wire is to be subsequently attached.

### **Perfecting Wax Pattern in the Mouth.**

The wax inlay thus mounted is then submerged in a water bath, the temperature of the water being about 120° F. After a lapse of two minutes it is carefully removed from the pin and placed upon a glass slab. The temporary stopping is removed from the tooth, the cavity is flushed with warm water, and the wax inlay is placed in the cavity, a firm and ever-increasing pressure being exerted in the following directions:

If the cavity is a disto-occlusal one, in an upper tooth, the pressure must be directed upward and forward.

In mesio-occlusal cavities the pressure must be upward and backward.

In upper mesio-occluso-distal cavities, the pressure must be upward, but the points against which the pressure is exerted must be the marginal ridges of the wax inlay. This can be accomplished by making a V-shaped cushion of the thumb and index finger or the thumb and middle finger of the right hand.

If the cavity is a disto-occlusal one in a lower tooth, the pressure exerted upon the wax inlay must be directed downward and forward. In lower mesio-occlusal cavities, the pressure must be downward and

backward, and in lower mesio-occluso-distal cavities the pressure must be directly downward and it must be exercised against and upon the marginal ridges of the inlay.

When the wax, thus slightly warmed, has been placed in the cavity and a carefully exerted ever-increasing force is applied, the inlay will begin to yield under this pressure and seat itself against every part and margin of this cavity.

Presently the wax will cease yielding, but the pressure must be retained, and a stream of cold water directed upon and around it to thoroughly harden it.

With the various carvers and right and left burnishers, all margins are now carefully gone over and the occlusion made perfect.

The interdental and gingival portions of the wax inlay are carefully burnished with a flat right and left burnisher, the contact area between the wax inlay and the next tooth, if any be present, is carefully examined, and the wax is polished with a pellet of cotton sparingly moistened in oil of cajiput.

An explorer is inserted into the distal part of the inlay and it is carefully removed from the cavity and the mouth, placed upon the operator's palm of his left hand so that the cavo-surface side of it be uppermost.

The sprue wire is heated in the flame of the Bunsen burner or alcohol lamp, and inserted beyond the depth of the ring upon it, midway between the buccal and lingual extremities of the inlay. Once the sprue wire has entered the inlay, a gentle stream of water is played upon the extreme end of the sprue wire, or better, the fingers that hold it, until the wire is cold. This must, of course, be done by the assistant, or if none be present, the patient's help may be enlisted for the purpose.

A soft rubber sponge placed at the bottom of a glass of water serves to support the wax inlay carrying sprue until the cotton rolls are applied on either side of the patient's tooth, the saliva ejector is placed in position, the cavity thoroughly dried out and filled up with temporary stopping. The patient is dismissed, and when we are ready to imbed or invest the inlay in the refractory compound, it is removed from the watery sponge bed, by grasping the sprue wire carefully with a pair of tweezers. The wax inlay is dried with a gentle jet of cold air and the sprue wire, plus inlay are mounted upon the crucible former.

Such pits or grooves as may seem necessary to the operator may now be carved upon the wax with a small sharp lance, remembering that it is easier to do this in the wax than in the metallic duplicate of it. It may as well be said here as anywhere, that not much, if any, depend-

## ITEMS OF INTEREST

ence should be placed upon these grooves or pits as retaining factors between an inlay cavity and an inlay, and personally the writer resorts rarely, if at all, to this in practice.

### **Result of Two Methods Compared.**

And now, may I be permitted to ask the advocates of the indirect method to again read what has been said in regard to directions for taking the impression, making the die and carving the wax inlay by means of this method.

In full justice to the patient, to the art and to themselves, let them read and let them construct an inlay as they read, and let them implicitly follow directions and then let them construct an inlay in accordance with their usual procedure; let them then compare both results by placing the finished product into the tooth cavity.

In the first instance, they will have a complementary product which will interplay with all the cavo-surfaces of the tooth with a grateful, frictional and supporting contact, and as to what they will find in the second one, I am ready enough to leave to their judgment, providing they have examined the first. Up to the present time the writer has found no other means of making an accurate inlay by the indirect method, except the one herewith described, and when the advocates of the so-called indirect method shall have read and followed these directions, they will admit readily enough that the method if carried out as to each detail will bring desirable results, but they will also add that the time spent in obtaining the results is far too great.

But surely they are seeking better results by means of an indirect method, and if their indirect method is not quite efficient, and if all these steps I have described, and all these directions I have given do lead to a more perfect result than is the type of indirect method which they should adopt.

On the other hand, there is nothing which they can accomplish, no result which they will produce by following every detail of these directions most studiously and indulging in the expenditure of all the time necessary, which may not be duplicated perfect in every detail, in a great deal shorter period of time if they follow the directions given for the construction of the wax inlay in accordance with the rules originally laid down by him whom they call the "Great Taggart," and who is responsible for the very existence of the cast gold inlay; in other words, if they follow the direct method.

The cast gold inlay made by the indirect method which is here described in detail, compares very favorably with those made by the direct method; in fact, it is impossible to differentiate them at all.

But it must be remembered that here the indirect method was used only as an accessory to the direct and that the time consumed was far greater than if the direct method alone had been employed. Also no time has been saved to the patient, in fact, an extra visit was necessitated.

We are forced to the conclusion that the direct method is the rational one and that they who desire to follow a correct indirect method and who wish to eliminate guess-work, must give that which all indirect methods of doing anything entails, namely, they must give up more time.

The one advantage the indirect method may claim is that it would be possible to break up one protracted sitting of a patient into two shorter sittings. In feeble, convalescent or exceedingly nervous individuals this method works to better advantage, and those are the conditions for which it was perfected, and is used, but it costs more time and effort to produce an acceptable result in this way, than we must spend in obtaining the same results with the direct method.

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### **"The Passing of the Gold Foil Filling."**

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By C. EDMUND KELLS, D.D.S., New Orleans, La.

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It must have been with pangs of regret that most "old-timers" (like myself) read the editorial with the above caption in the *ITEMS OF INTEREST* for May. For while we (I take the liberty of speaking for these old-timers) do not for a moment believe that the editor's stand is well taken, it is certainly unfortunate that the weight of such an influential journal should be thrown upon the wrong side, in "our" opinion, of such an important question as that of filling teeth.

The editorial begins thus: "From this issue of *ITEMS OF INTEREST* we anticipate will be dated the beginning of a revolution in the art of filling teeth." This is a very simply worded, plain statement, and there can be no double meaning to be read "between the lines."

The *revolutionary ideas* which are thus predicted to spread far and wide are promulgated in a paper, in the same number, by Dr. J. Lowe Young, an *orthodontist* who, before the Second District Dental Society, undertakes to teach the *dentists* of the world how to fill teeth, and the editor urges his readers to read Dr. Young's paper.

After a careful study of it, and also of the editorial, I wish to go on record as believing that the prophesied revolution in the method of filling teeth will not materialize.



## ITEMS OF INTEREST

One would be lead to infer from the opening paragraph quoted above, that the idea of reproducing natural occlusal surfaces was being introduced generally to the dental profession by Dr. Young at this late day, though in some desultory cases (including some of Dr. Taggart's own work *in casting*) it is admitted that it had been attempted *since* that casting process came in vogue.

This is not, however, a fact, for in 1888 Dr. J. Rollo Knapp, of New Orleans, did originate and introduce to the dental world, and for



Fig. 1.

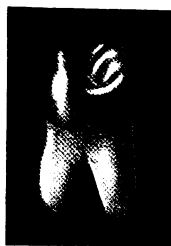


Fig. 2.

the first time show to hundreds of dentists at many meetings, perfect restorations of occlusal surfaces in his crown and bridgework. Just such restorations as Drs. Young and Hyatt\* show on pages 362, 372 and 373, May ITEMS OF INTEREST, were also made by the writer in 1888 *after* seeing Dr. Knapp's work, and are shown in Figs. 1, 2, 3, and 4, and undoubtedly the same class of work must have been copied from Dr. Knapp by many others.

By their side is also shown an "old soldier" (Fig. 5) which, judging from the manner in which its enamel has worn away was in "normal occlusion" with its opponents, and the soft gold foil filling probably served the "limit of its usefulness" by saving it from decay for many a good old year.

It is a good specimen of what a "normal occlusal surface" is at that age.

\*In publishing the report of the discussion of Dr. Young's paper, the name of the author of the opening discussion was accidentally omitted, and Dr. Kells has consequently attributed the authorship to the Society's president, Dr. Hyatt. This is an error. The omission of this name has not heretofore seemed of sufficient importance to necessitate a published correction, but since Dr. Kells has inaugurated a critical discussion, which we hope will be participated in by others, it now seems advisable to state that the discussion in question was contributed by the undersigned.

R. Ottolengui.

When porcelain was introduced an opportunity was given for the development of the *artistic* in the operator, and most beautiful and natural restorations of the occlusal surfaces were the order of the day.

If, therefore, this class of work has been before the profession for just twenty-five years and no revolution has taken place, upon what grounds can our editor conclude that because it is now suggested by Dr. Young, said revolution will take place?



Fig. 3.



Fig. 4.



Fig. 5.

### **The Form of Teeth in Old Age.**

While I dislike to differ with the editor, I believe this paper in question will not even cause a ripple upon the surface of general practice, and for the following reasons: Normal occlusal surfaces of the teeth of a hale and hearty man of sixty with a good denture, are not what they were when he was twenty. The cusps have worn down and the sulci shallowed, and for a reason. At twenty his teeth were much stronger and tougher and less brittle than at sixty, and the fact that there is no longer any such deep interlocking of the cusps at the later age, saves many a good tooth from being split.

Many a tooth that has been weakened from the loss of its pulp and deep-seated cavities, may be saved from splitting by judiciously grinding down its cusps and those of its antagonists where such are dangerously long, and conversely it is true, that oftentimes, when such a course has been neglected an otherwise good tooth has been split and lost. This is especially true of bicuspid and it is the writer's invariable policy to safeguard such teeth that contain "saddle" fillings, by shortening their cusps.

While it is undoubtedly true, as the essayist says, "that any deviation from the normal must proportionately lessen the usefulness of the denture," it is an indisputable fact that in most mouths there is a very

## ITEMS OF INTEREST

decided "deviation from the normal," and in very many, if not most of them, the "consequent usefulness" is so slightly lessened as to be inappreciable.

The facts are that probably all of the original operators who, like the writer, at one time restored these normal occlusal surfaces as has been shown, eventually learned that they were more beautiful than practical, and to-day strive only for a good, substantial occluding surface, with the cusps and sulci not too strongly pronounced, as being the ideal restoration.

And in passing it might be well to dissent from the essayist upon pure golds being the best for the extensive restorations of which he

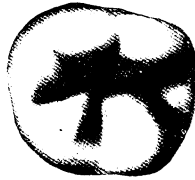


Fig. 33 (Young).

speaks. Cast pure gold is not as dense as malleated gold, therefore a harder alloy is frequently preferable for extensive restorations and crowns.

### Seating Inlays.

Incidentally, on page 360, we have a striking example of how easy it is for one to go astray who, "*having had no practical experience*" yet undertakes to teach experts in their own line. Let Dr. Young, the essayist, make a practical, perfect fitting inlay such as shown in Fig. 33, put it in place in the mouth, drive it home—as is usually done, and burnish down the edges—the correct procedure, I believe—and then try to remove it to prepare for its final setting! He will then wish he had not placed his sprue on the under side, but had a small bit by which he could remove his inlay without ruining it.

This very day the writer removed the sprue from the occlusal surface of a *compound inlay* (for a molar) thinking it would not be needed, and after it was *driven home* and thoroughly burnished it was impossible to remove it. A hole was drilled in the inlay and thus a grip was gained and it was finally removed.

### Caries After Regulation.

Upon reading Dr. Young's paper another surprising feature is noted. It has been pretty generally taught that irregular teeth induce caries, and that, if for no other reason than for their preservation, such teeth should be straightened.

In Figs. 24 and 25 of this paper are shown very pretty upper and lower arches and the teeth are seen to be free from caries. These models were taken at the age of fifteen.

Figs. 26 and 27 show the same case *one year later*, and, what do we find? No less than thirteen of these teeth have practically "all gone to

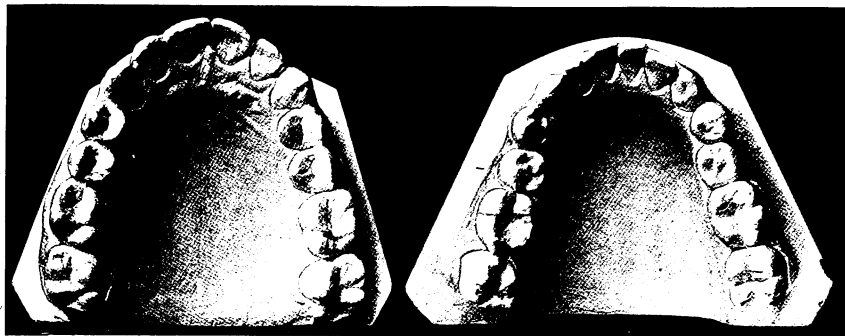


Fig. 24.

(Young.)

Fig. 25.

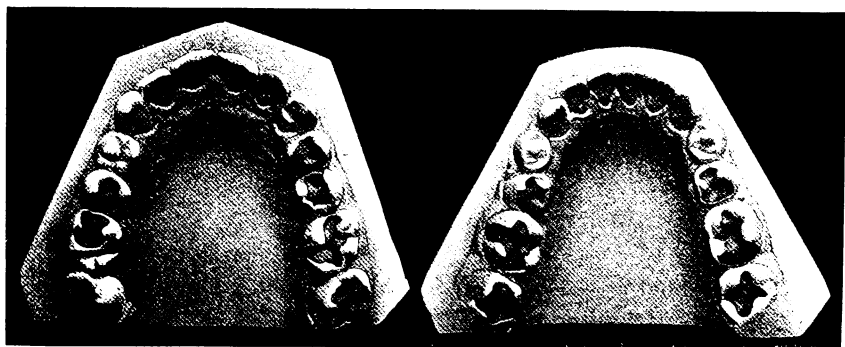


Fig. 26.

(Young.)

Fig. 27.

pieces" during this short period of time. That certainly is a pathetic picture to contemplate.

**Purpose to  
be Served  
by Gold Filling.**

In the course of the discussion of this paper the President\* of the Second District Society said, "At this point it may be well to briefly consider the filling of teeth with gold as it has been practiced in the past. Soft gold was used first and admirably served

\* This was not said by the President, but by Dr. Ottolengui. See previous foot note, page 736.

## ITEMS OF INTEREST

the purpose of saving teeth. *Saving the teeth was about the limit of its usefulness.* (Italics mine.)

As the writer understands it, one of the principal objects, if not the *principal object* of dentistry, is to save teeth, and if soft gold has admirably served this purpose in the past, why discontinue its use?

The writer has soft gold fillings, and perfect ones too, in his teeth to-day, put there by his father over forty years ago. He has frequently seen soft gold fillings still in good condition after fifty years and *some few after sixty years of service.* Why should not the present and coming generations, as long as they use gold in some form for filling teeth, be satisfied to do as well?

### Soft Gold Foil.

Let us stop for a moment to consider the class of cavities to which soft gold foil is adapted. The editor says: "The characteristics of soft gold were such that it was most successfully applicable to cavities having surrounding walls," and elsewhere he says "it admirably serves the purpose of saving teeth," and there is no one of any experience but has had ample proof of the correctness of both statements.

When we consider that nearly all cavities have *in their incipency* the four walls given as necessary for the use of soft foil, no other conclusion can be reached from these arguments, but that for many, very many cases, soft foil is to-day the very best agent *for saving teeth.*

Referring again to the soft foil fillings put in my own molars, when I was about fourteen years of age, I will quote, "Saving those teeth was the limit of its usefulness." After forty years of service it has not yet reached its "limit." There never has been, nor is there now, any prospect of any opportunity for anyone to "restore the normal occlusions" of those old molars by modern and revolutionizing cast gold fillings.

In a family practice, where families are handed down, generation after generation, from father to son (the fifth generation having recently been brought in to the writer), as the permanent teeth erupt, it is common practice to open up pits and fissures in the molars and bicusps with a No. 1 or No. 2 bur, and fill them either with soft gold foil or amalgam, as each case indicates.

A large percentage of upper incisors and many cuspids have small pits upon their lingual surfaces, which may be prepared with a No. 1 bur and filled with soft gold foil. The lower molars in many cases have small buccal pits also preparable with a No. 2 or possibly No. 3 bur, which also may be filled with soft gold foil which *admirably serves the*

*purpose of saving these teeth.* Can one conceive of an operator taking the *proper care* of such teeth, who has discarded the practice of filling teeth with gold foil, limiting himself to the extensive operations described in the paper under consideration?

Will the editor tell us what is to be done with these teeth, if his "*anticipated revolution in the art of filling teeth*" takes place?

The prediction of this revolution in the art of filling teeth is a tacit acknowledgment that the great mouth hygiene movement that is sweeping over this land is doomed to failure.

Why inspect school children's teeth, if small cavities found therein cannot be filled with foil, owing to the abandonment of this process?

The great work of spreading the doctrine of prophylaxis—the vast interest shown by dentists all over the country in educating the public to care for their teeth and preserve them—the efforts to have free clinics for children—are all discounted and admitted to be a failure, by the prophesied "revolution in the filling of teeth." What a strange propaganda!

The writer believes just the reverse. He anticipates that this world-wide education of children to care for their teeth will result in a greater demand for small gold foil fillings which "admirably save the teeth" and therefore because of this education of the masses, large restorations, crowns and bridgework, will be less and less necessary as the years go by.

In conclusion it is sincerely hoped that the anticipated revolution will not take place, but that the contrary will occur. As the ability of the average dentist is increased by careful training in technique, assisted by the better care his work will receive at the hands of his patients, he will be more and more able to save teeth by filling their small cavities with soft gold foil, the material of all materials which has proven to be "admirably adapted to this purpose," and with the saving of teeth as his principal object, have fewer opportunities to display his ability to make beautiful and extensive restorations, and thus rest content.

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### Reply to Dr. Kells's Critique.

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By J. LOWE YOUNG, D.D.S., New York.

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In this issue of *ITEMS OF INTEREST* appears a communication from Dr. C. Edmund Kells in which he takes issue with the editor of the above-mentioned journal for his editorial in the May number, and at the same



## ITEMS OF INTEREST

time criticizing my paper published in the same number under the title "*Restoration of Occlusion by the Casting Process.*"

It is not my intention to defend the editor of *ITEMS OF INTEREST* for his editorial, as every thoughtful reader of this journal knows full well that the editor is far more capable of defending himself \* than is the writer. I do wish to say a few words to correct some of the statements made by Dr. Kells.

Whenever I give a paper I am always pleased to have a frank discussion from any member present. Whenever it happens that there is no difference of opinion on the subject under discussion, I always conclude that either my effort has been in vain, or else that many present were too timid to put their thoughts in words.

In Dr. Kells's letter he says that "I, an orthodontist, undertake to teach the dentists of the world how to fill teeth." This is not true. In my paper there is nothing said about cavity preparation: selection of filling materials; which method is preferable for cast inlays; nor the technique of taking impressions or the proper cementing of these inlays.

In the opening paragraph of my paper I say: "Consequently, we are confronted with two main questions: first, a careful study of the teeth when in occlusion, and second, cast restorations, whether they be for inlays, crowns or bridges."

On page 347 I state as follows: "In this brief paper it is my purpose to call your attention especially to the one phase of normal occlusion represented in the relation of the occluding surfaces of the teeth of one dental arch to the same surfaces of the teeth of the opposing arch." And on page 348 I state as follows: "It is my further purpose to direct your particular attention to the grooves, the pits, the ridges and the inclines found on the occluding surfaces of the teeth and to consider the possibilities of their reproduction in your work."

I wish you to observe that my entire paper dealt only with the normal restoration of the occluding surfaces of your inlays. And by normal restorations I do not mean that you should carve cusps such as are found on the first permanent molars of a fifteen-year-old boy when you are restoring the occlusal surface of the first permanent molar of a man of sixty-five years, who perhaps has chewed tobacco for fifty years and thus abraded his teeth.

For Dr. Kells's edification I wish to state that the subject whose teeth are represented in Figs. 24 and 25 at fifteen years of age, and in Figs. 26 and 27 one year later had no appliance of any sort in the mouth

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\*The Editor will contribute to this discussion in the next issue. Others are invited to do the same.

during this year. I therefore do not think it fair for him to insinuate that orthodontia is responsible for this condition.

I will now quote from Dr. Kells as follows: "The writer has soft gold fillings, and perfect ones, too, in his teeth to-day, put there by his father over forty years ago. He has frequently seen soft gold fillings still in good condition after fifty years and some few after sixty years of service. Why should not the present and coming generations, as long as they use gold in some form for filling teeth, be satisfied to do as well?"

It is quite evident from the above that Dr. Kells wishes to convey the impression that the summit has been reached and that no further progress is possible. To all such assertions there can be but one answer, *i. e.*, the operator so situated will soon reach the decline, for no one remains on the summit of success for a long period. And yet, how inconsistent he is, for in another place in his letter he says: "This very day the writer removed the sprue from the occlusal surface of a *compound inlay* (for a molar) thinking it would not be needed, and after it was *driven home* and thoroughly burnished, it was impossible to remove it. A hole was drilled in the inlay and thus a grip was gained, and it was finally removed."

Thus we learn that Dr. Kells occasionally makes inlays and that each one fits perfectly.





## A Report of Three Radiographic Cases.

By LESLIE EDWIN PALMER, D.M.D., New York.

The X-ray in dentistry has demonstrated its value so conclusively that no further evidence in support of its more extended use is necessary. The following cases are recorded because they are a little out of the usual of routine practice:



Fig. 1.

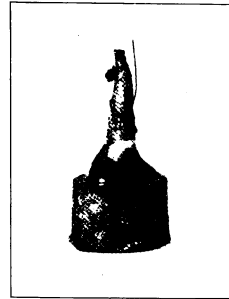


Fig. 2.



Fig. 3.



Fig. 4.

### Case I.

Was a right upper lateral, the canals of which, from the history, seemed to have been filled some two years previously. The tooth had never given any trouble, and remained quiescent until September, 1912, when the patient developed severe infection while away from home, and an attempt was made to give relief by opening through the canal. On October 12, 1912, he appeared for treatment. A wire was carried into the canal, which suggested a perforation, and radiographed. The radiograph is shown in Fig. 1.

Owing to the extent of bone absorption, both at the apex and cervically, as well as the infected area distally around the perforation, the tooth was extracted. Fig. 2 is a photograph of the tooth after extraction, with the wire in place (made October 13th). Note the tiny gutta-percha point projecting and the roughened necrotic apex, which shows well in both pictures.

It is likely that the abscess cavity was present when the tooth was treated, and it would seem reasonable to suppose that had it been radiographed at that time that the apex might have been excised and the tooth saved.



Fig. 5.  
Radiograph by Schamberg.



Fig. 6.

Patient referred by Dr. Henry W. Gillett.

### **Case II.**

Fig. 3 (taken January 25, 1913) shows a large abscess area involving the left lower cuspid and bicuspid. Fig. 4 (taken March 1, 1913) shows the same after operation and excision of the apices of both roots by Dr. Schamberg.

It will be of interest to see the radiographs of this case after a year or two.

### **Case III.**

This was a left upper lateral incisor, which, according to the patient, had been fistulous for a number of years. The radiograph (Fig. 5, taken December 28, 1911,) shows a large area of bony absorption apically and well down to the cervix distally. The tooth was operated on January 8, 1912, and the apex excised and the necrotic area curetted.

Fig. 6 was taken April 11, 1913, and would seem to indicate extensive bone regeneration, during a period of fifteen months. The canal was filled while the wound was still open and both ends of the tooth could be reached, and is known to be filled just to the tip, although the picture would tend to show that it is faulty. This is owing to the high angle at which the tube was held to prevent distortion.



## **A Statement and Appeal for the Relief Fund.**

By JAMES McMANUS, D.D.S., Hartford, Conn.

Since October, 1912, my thoughts have often wandered, seeking for a cause or reason why the dentists of this country have taken so little interest in building up the National Dental Association Relief Fund. Knowing a goodly number of dentists in and near New York City who are sympathetic and charitable, and with the record the dentists of this country made in response to the terrible call of distress from Galveston and San Francisco, I believe that the dentists, with few exceptions, do not know that there is a National Relief Fund, already established, waiting patiently for generous additions, sufficient to make it possible to meet sudden calls for relief and to care for the unfortunate and the aged.

As I recall them, the articles relative to the relief fund movement that have appeared in the dental journals were unfortunately timed. The early summer months are so crowded with work and preparations for the family vacations that thoughtful reading is deferred, and on return to office work in September there is little time for reading back numbers. Uncomplimentary as it is, I now believe the only plausible reason is that the articles and appeals were neither seen nor read by nine-tenths of the subscribers to the journals. Disheartening as it has been, and is, I am once more to beg space for a statement and an appeal.

Drs. Thomas C. Stellwagen and W. H. Trueman, of Philadelphia, Pa., years ago, followed by Dr. L. G. Noel, of Nashville, Tenn., while President of the National Association in 1903, were the pioneer movers for the establishment of a relief fund. The reference to the British Dental Association Fund and the grand work done by a few English dentists, and the suggestion as to the duty, and what should be a pleasure and what could easily be done by American dentists, made in the meeting held at Birmingham, Alabama, 1909; Dr. Kirk's clean-cut, forcible editorial in the December number, 1911, of the *Cosmos*, outlining what ought to be done by American dentists, and telling in detail what had been successfully done for years past for the unfortunate and aged dentists and their families by a few of the comparatively small number of dentists in Great Britain and Ireland; the grand, ideal home pictured by Dr. J. E. Storey of Beaumont, Texas, in *ITEMS OF INTEREST*, 1912, March number; the editorial by Dr. Ottolengui in the *ITEMS OF INTEREST* in the July number, 1912, and his happy and practical suggestion of a dental seal that dentists and their friends may use, especially during the holiday season, and at all times keeping the object in mind, after the

## EXCLUSIVE CONTRIBUTIONS

manner of the Red Cross Association; and the hopeful statement of assured receipts of funds if only a small number of the forty thousand American dentists would work and give the fees received for only one hour's extra work in the year; all that has been said at society gatherings and published in the journals, so far as we can learn, has failed to arouse interest or gain contributions. And yet it is pleasant to recall the older members of the association that attended the International Medical Congress in London, England, in 1881, and their interest in the dental section; their great interest and lavish money contribution for the success of the International Medical Congress held in Washington, D. C., in 1887; also to the Columbian Dental Congress held in Chicago in 1893, the Dental Congress held in St. Louis in 1904, and to the Congress held in Jamestown in 1907; also for the bronze tablet placed in Hartford on the fiftieth anniversary of the discovery of Anaesthesia and for the bronze bust of Dr. Horace Wells placed in the Army Medical Museum in Washington, D. C.; also the generous response to the call for the Galveston and San Francisco sufferers, and for the frequent and large sums given yearly for banquets to hearty, healthy, well-to-do dentists in different sections of the country. All these incidents and more fraternity banquets tell that loyalty to the profession, sympathy and charity are yet words to conjure with.

Church societies, the Masonic orders, Odd Fellows, Elks, and many other fraternal organizations, and that lovable band of actors and actresses, all care for their unfortunate and aged members, while many dentists pay out on special calls often ten times more than would be required of them if they had an organized insurance and relief association. Of the British Dental Association of 2,020, only 579 are members of the Relief Association, and they paid each year five dollars to the fund. The membership of the new National Association is estimated by enthusiasts to reach ten thousand or more members the first year. How many of these members receive two, five, ten or fifteen dollars an hour for their services is as yet unknown. If each member could be induced to give the fee received for one extra hour's work in each year, you can easily calculate how quickly a large fund would be raised. If only half of the number of estimated members would send to Dr. H. B. McFadden, of Philadelphia, the Treasurer of the National Association, one dollar or more for a few years, the insurance and relief advantages would hold fast the old members and add each year many new ones to the association.

This is a general appeal which will not call in the needed money. We must accept the statement based on the experience of the Treasurer of the British Association and make special, definite and personal appeals. It is now up to a few active and earnest men in the large cities and in

## ITEMS OF INTEREST

the State societies to start this movement and make it a success, as they surely can. They can, if they will follow the examples of charity workers and tag the members and their friends, a method that brought large returns in many cities a few years ago. The committee of the association has worked earnestly and have spent liberally of their OWN money for printing and mailing circulars appealing for funds. If they decide to follow the suggestion of Dr. Ottolengui, and place a DENTAL SEAL on the market before December 1st, there no doubt will be a gain of many hundred dollars and an interest awakened that later will induce contributions to the fund.

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### A Practical Dental Clinic.

By IVAN R. COTTRELL, D.M.D., Norwood, Mass.

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A dental clinic connected with the Norwood Civic Association, Norwood, Massachusetts, has been in operation during the past year so successfully that the following paper has been written with the idea of offering an example of what can be done in a small town along these lines.

Norwood is a growing town of about 9,000 inhabitants, situated fifteen miles south of Boston. It is partly residential, though chiefly industrial, having book-binderies and presses, tanneries, paper-mills, foundries and manufactories for printers' inks. It has six or seven dentists.

The Norwood Civic Association is an institution founded for and dedicated to the people of this town, with the purpose of promoting the community welfare. For this purpose several large buildings have been erected, which contain two large halls, a fully equipped gymnasium, bowling alleys, pool tables, swimming pool, game rooms, reading rooms and a dental clinic. There is being built a small infirmary and accident ward. Out of doors there are sections for all kinds of out-door sports.

As a means of preventing disease and of safeguarding the health of the community, the dental clinic was inaugurated. This opened about the middle of November, 1912. It is fully equipped with everything up-to-date. The dentist in charge of this work gives all of his time. He has an office assistant who sterilizes the instruments, makes the appointments and keeps the records. In this way about forty patients can be seen a week. The work is as yet confined mostly to school children, but any resident of the town who cannot afford to pay the regular dentist's fees, and who otherwise would neglect the teeth, is welcome at the clinic,

where his work can be done for a minimum fee. Thirty-five cents for a porcelain filling is the highest charge made.

The Superintendent of Schools believes that if the teeth of his school children can be put in order, the efficiency of those children will be raised, and, of course, he is right. Without his co-operation this work would be impossible, for he allows the children to come to the clinic during school hours.

Cases are investigated by the school nurse, and, if found worthy to receive treatment, a card is given to the parents to sign. In this way a written agreement to co-operate is obtained from the parents. The card is brought to the clinic and the child is given an appointment. This appointment slip is shown to the teacher and the patient is allowed to come to the clinic at the hour appointed without further excuse. At the end of the operation another appointment is given if necessary, and the child goes back to school and takes his place in the class. In this way provision is made for a continuous supply of patients. Sitzings are for one hour each, except for new patients and very small children.

**Educational  
Aspect of the  
Dental Clinics.**

The educational side of this work is considered the most important feature. At the first visit each new patient is given careful instruction about the teeth; their function, how long they should last, why they decay, and how that decay can largely be prevented. The patient is also given a practical demonstration with a tooth-brush and a model as to how the teeth may best be cleaned. The whole thing is made as practical and as interesting as possible, and that this is successful is shown by the fact that questions are often asked.

Besides this, a successful mouth hygiene campaign for the adults has just been completed. Lectures by local dentists were given in four school houses in different parts of the town. These were preliminary to a main lecture given one week later in a central hall by Dr. George H. Wright, of Boston. Musical features were introduced at the lectures to add to their interest and attractiveness. Lectures were all illustrated as far as possible and were, of course, free, but admission to the main lecture was obtained by tickets which were previously distributed. This method of admitting people to a free lecture by ticket only is based upon a psychological principal, which has worked out very successfully here. If the people find that they have a ticket to a lecture, where possibly their neighbor has not, they think that they are privileged, and hence are more likely to go.

Leaflets showing the relation of sound teeth to good health, and instructions for the care of the teeth, were widely distributed.



When the clinic opens next fall we will not take new patients until after all of the patients treated this year have been gone over again, and any additional work that presents itself will receive prompt attention. When these patients are through, then we will receive new ones.

With the prices charged, the clinic does not always quite pay for itself, but the Civic Association considers the payment of the deficit a good investment.

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## **Auto-Intoxication a Cause of Pyorrhœa Alveolaris.**

By H. E. BLILER, D.D.S., Chicago, Ills.

To auto-intoxication has been attributed a great many ailments to which man has been subjected; some have a true and tangible relation to the condition, while the large majority have been unloaded merely to satisfy the whim to ascribe a definite etiology to all conditions.

Auto-intoxication is a term which is defined within itself. In brief, it is a pathological condition of the body due to the absorption of poisonous excretory products, manifesting itself clinically in local and general or systemic symptoms.

The condition which I have chosen for my discussion is one of the many local manifestations. It is my aim to give the impression that all cases of pyorrhœa alveolaris are due to auto-intoxication or have that as their basis; that auto-intoxication is the only factor in the cases which I shall relate further along in my paper. It has been my experience in treating these cases during my twenty-five years in practice to inquire carefully into the habits and manner of life in these individuals and if possible to classify them etiologically as well as clinically.

Pyorrhœa alveolaris is a descriptive term and not a true clinical entity, and for that reason it is hard for practitioners to assume a common ground in the discussion of this condition. The words themselves mean merely pus exuding from the gums. The presence of pus and the signs of inflammation about the gingival margins bring us face to face with an infection. Our teaching in elementary pathology has led us to search always for three premises in an infection: (1) Local or general vitiation or lowered vitality, (2) Area of infection, (3) Infecting organism.

That micro-organisms are the exciting cause of pyorrhœa is now generally accepted by the best men in our profession. The peculiar anatomical construction of the pericemental membrane and its continua-

tion with the submucosa of the gums opens up a favorable *locus minoris resistantæ* for the entrance of infective bacteria.

It is true that the preceding factors, *i. e.*, infective micro-organisms and the area of infection are always present and it is necessary only to add the condition of the lowered vitality to initiate the pathological process; it being the match in the powder, so to speak. Kirk and Michaels\* in carrying on some investigations upon the composition of saliva in various systemic states threw much light upon the systemic relation to oral conditions. W. Arbuthnot Lane, a surgeon of England, has for many years emphasized the great importance of intestinal stasis and auto-intoxication upon the human economy. In the *Clinical Journal*, Vol. XLI, 1913, he cites a number of local conditions, such as tri-facial neuralgia, neuritis and chronic Bright's disease which responded in a remarkably short time to treatment directed to the relief of intestinal stasis and putrefaction. In conclusion I want to emphasize the importance of systemic treatments in these cases, as well as the local treatment and to urge the hearty co-operation of the dentist with the intelligent physician in securing a favorable basis of systemic cleanliness upon which to conduct our local treatment. Below I append two cases which illustrate my point:

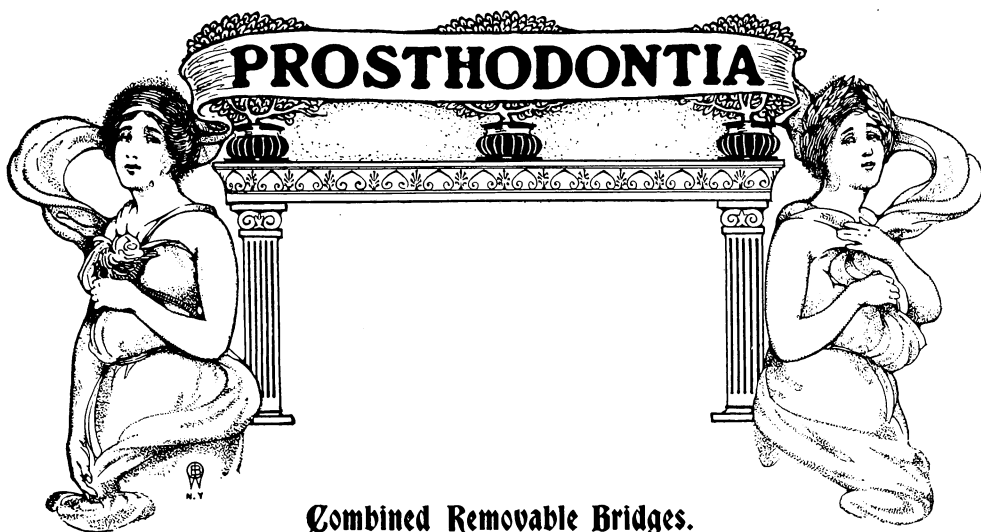
Mr. W. L. S., a young man twenty-two years of age, came to my office June 1st. He complained of soreness and bleeding of gums after brushing and of a very fetid breath. Examination showed an aggravated case of phagendemic pyorrhœa with very little accumulation of sub-gingival calculus. The teeth were all loose and large pus pockets were found about the angles. There was no history of venereal trouble nor of any drug taking. No signs of any other disease were present. I gave him the usual local treatment with no avail. Antiseptics seemed of no benefit. After treating him for two months I decided that I had here a systemic basis. I placed him on a tonic eliminative treatment with the result that in less than ten days all the former trouble had disappeared.

Mrs. C., aged thirty years, giving no history of venereal taint, nor systemic disease, came to my office with the recommendation that all her teeth be extracted. I found an oral condition very similar to the one quoted in the preceding case. The same treatment was instituted and the result was equally as satisfactory as in the preceding case.

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\*DENTAL COSMOS, July, 1913.





## Combined Removable Bridges.

By DR. L. GORMSEN, Copenhagen.

*Read before the Scandinavian Dental Association Meeting, Christiania, Norway, 1913.*

In the course of considerable experience with fixed bridgework I have noticed that in large bridges, *i. e.*, on more than two abutments, a remarkably large number of cases occur where the crown of one of the outer abutments becomes loosened from the root. The reason of this, I take to be, that the central abutment during mastication acts as a fulcrum, comparatively heavy pressure being thus brought to bear upon the outer abutments, so that the connection between crown and root becomes loosened. In such cases it is necessary, of course, to remove and remake the whole bridge. The inconvenience of this method of procedure need hardly be described; the bridge will always be more or less spoiled. The first illustration, Fig. 1, shows a plaster model of such a failure: a bridge on three abutments at either side, connected with the over-arch bar as indicated by Bryan, there being a tendency to looseness in some of the abutments. The frontal bridge is separate. In this case, the crown of the first left bicuspid is loose, necessitating the removal of the bridge on both sides, a very difficult piece of work, especially as there is a post in the root of the second bicuspid on the other side. The patient being about to start on a journey, and not having time to have the work done at once, I was obliged to bore and grind the interior of the loosened crown in order to prevent the accumulation of decaying matter.

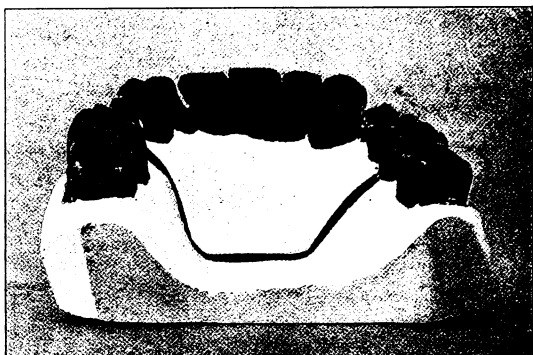


Fig. 1.

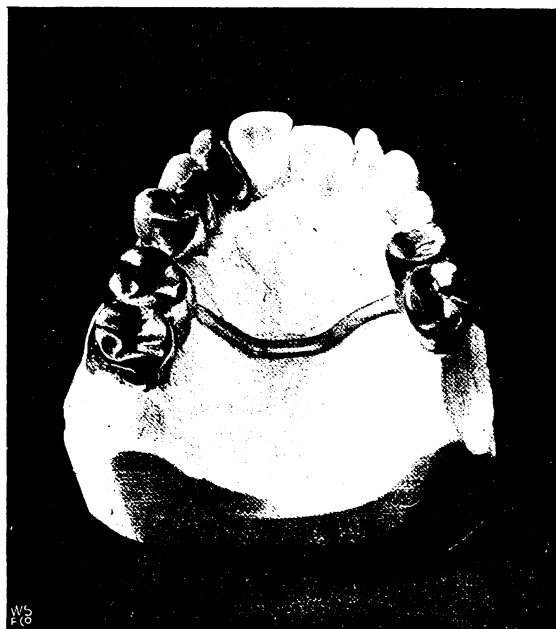


Fig. 2.

## ITEMS OF INTEREST

Fig. 2 is likewise a bridge on several abutments, but has the advantage of being fixed with Evans's gutta-percha cement, rendering it possible to remove the bridge with heat as soon as one of the crowns becomes loose. This being, however, a matter of comparatively frequent occur-

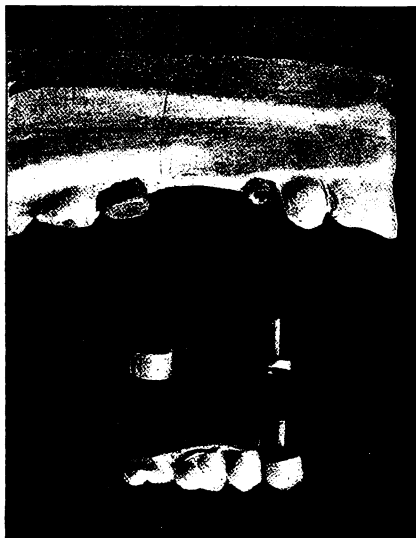


Fig. 3.

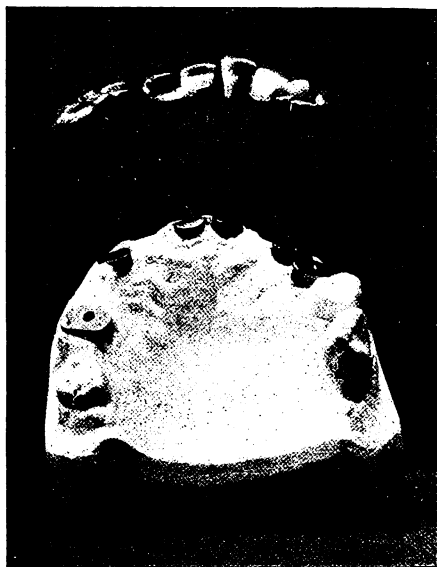


Fig. 4.

ence, the system in question cannot be regarded as effective. I have, therefore, for the last three years employed Peeso's system of removable bridges in all cases of more than two abutments, being of opinion that the slight mobility thus obtained in the individual crowns is sufficient to compensate the force which would loosen the crowns on a fixed bridge, or, in case of a sufficiently solid connection, loosen the root itself.

As some of my colleagues may be unacquainted with this system, I give here (Fig. 3) a typical example. A gold cap with iridio-platinum tube is cemented on to the foremost root, with a corresponding half cap and split post on the bridge. A cap is likewise cemented to the rearmost root, with corresponding, telescopic crown on the bridge. These two parts must be parallel. The system can be further extended to meet the demands of individual cases.

Fig. 4 shows a case where the canine roots on either side are very



Fig. 5.



Fig. 6.

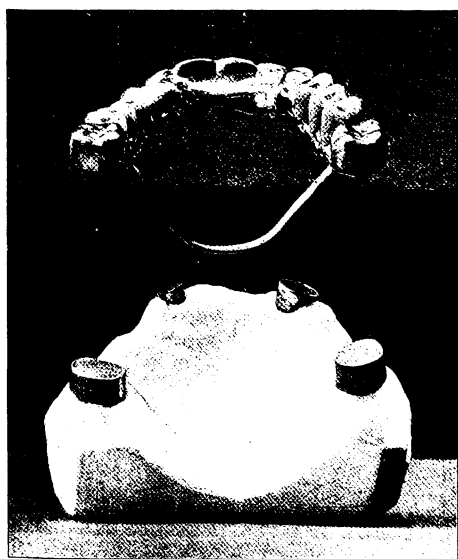


Fig. 7.

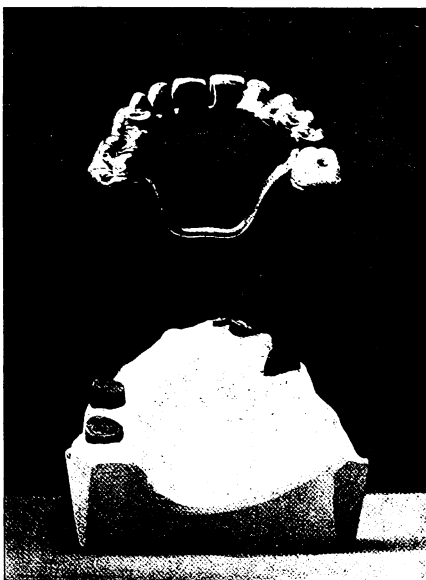


Fig. 8.

## ITEMS OF INTEREST

badly decayed and the first bicuspid slightly loose. It is therefore necessary to include all the abutments in one bridge, that they may afford each other mutual support. It would be a matter of some difficulty to obtain parallelism with so many roots; an effective support is, however, secured by joining the two median caps, the bridge itself being divided into two parts. Fig. 5 shows a view of the bridge from the lingual side; Fig. 6 from the labial.

Fig. 7 shows a full upper bridge with only three strong abutments,

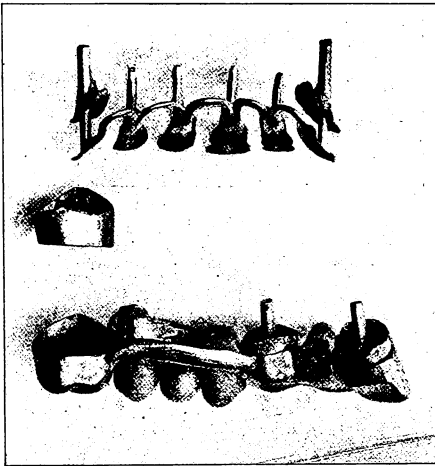


Fig. 9.

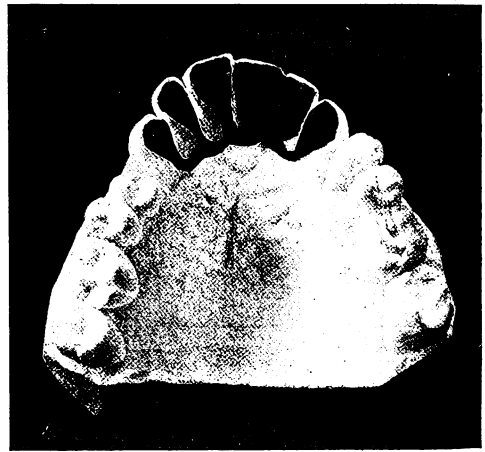


Fig. 10.

the right lateral root being very badly decayed. Here, also, I have strengthened the pillars with Bryan's overarch bar. I may here observe that my method of construction differs somewhat from that indicated by him. Bryan swedges out a strip of platinum 4 mm. wide to fit the palate; lays on a round thread of 14-carat gold, soldering and filling out with solder to give the bar a semi-circular form sectionally. I have, however, had cases where the gold has broken across at one end and become separated from the platinum for a part of the length. I therefore employ iridio-platinum drawn half-round and then carefully bent to the shape of the palate. There is no doubt that such a rigid connection is most effective, as any lateral pressure exerted on one-half of the bridge, only takes effect with half the force which would be the case if no connection existed. The bar causes no inconvenience to the patient.

Fig. 8 shows a full upper bridge on five abutments, of which two (the second bicuspid) were loose, but are now, after a year has elapsed,

# PROSTHODONTIA

quite firm. I do not allow the patient to remove such large bridges with weak or insufficient abutments, being of opinion that this would occasion too great weakening of the abutments. Only a slight white deposit is visible on the narrow platinum saddle, and there is absolutely no irritation of the mucous membrane. I must, of course, admit that it would be more hygienic to remove and clean the bridge each day, but as this



Fig. 11.

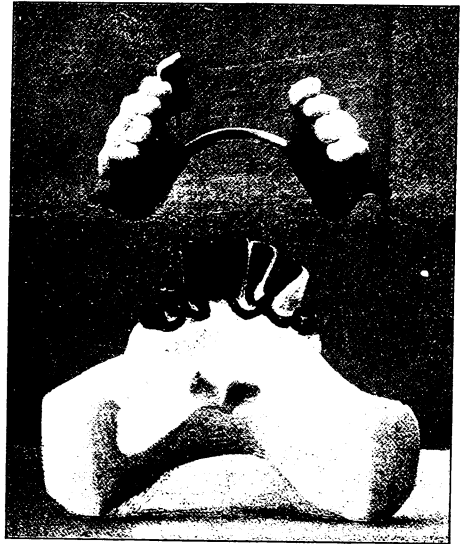


Fig. 12.

would soon involve the loosening of the roots, I prefer to choose the lesser of the two evils.

The lower part of Fig. 9 I have included in order to show my method of strengthening the bridge by an iridio-platinum bar on the lingual side, as it is almost impossible to sufficiently strengthen these large bridges. The upper part shows a removable fixation bridge for pyorrhœic upper incisors. It consists of inlays with iridio-platinum posts on the lingual side of the incisors, joined together, and with inlays and split posts corresponding to inlays and tubes in the canines. The incisor inlays are set in Evans's gutta-percha cement; the tube inlays are cemented into the cuspids. Single inlays with posts in the cuspids also, fixed with Evans's cement, would doubtless be too frequently loosened by the vibration occasioned in use; this is avoided by the tube and post connection. The

## ITEMS OF INTEREST

individual inlays are connected by means of a flat, bent iridio-platinum wire laid fast on the gingiva. This renders it possible to avoid caries of the approximal surfaces by means of silk thread, in contrast to inlays which are soldered up to a bar; moreover, no gold is visible from the front in cases of teeth set at wide intervals apart. In the event of any rupture of the bridge, it can easily be removed and repaired.



Fig. 13.

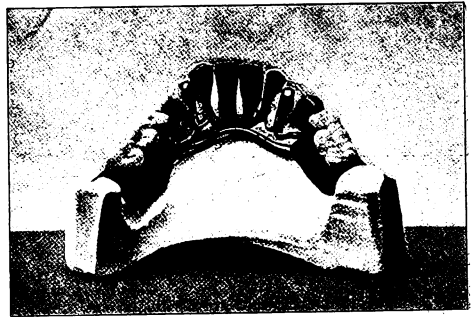


Fig. 14.

The next illustration, Fig. 10, is a renovation on the same principle of a fixed bridge which had proved a failure. It had broken, and an attempt at removing it resulted in the extraction of two teeth, the left central and lateral, which then had to be replaced with dummies. In Fig. 11, the second bicuspid, which was loose, is connected by an inlay with cap in the cuspid, which gives a greater stability than if I had extracted the bicuspid and used only the cuspid. In Fig. 12 there are several loose abutments, but by joining them together a sound base is obtained for the bridge.

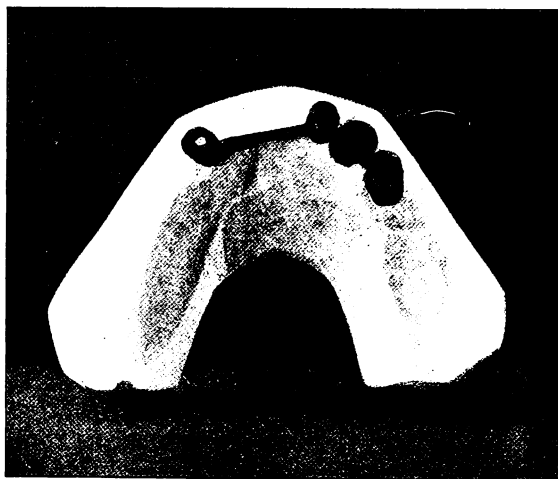


Fig. 15.



Fig. 16.



Fig. 17.



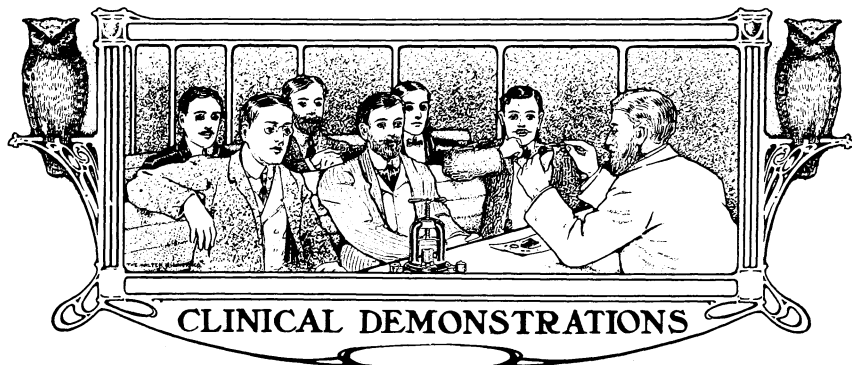
## ITEMS OF INTEREST

Figs. 13 and 14 show a similar case. In Fig. 15 all the teeth have been decapitated, capped and connected by means of an iridio-platinum bar, by which means I also obtain a good base for the corresponding bridge.

Fig. 16 shows uppermost a model of an upper jaw where several molars are loose and tipping gradually outward. Beneath is shown the bridge for both sides, with two arch bars. The next figure shows the bridge lifted off from the fixed caps. By facing the foremost teeth I have saved the appearance of the mouth, and the patient declares that he has now regained his full power of mastication. In a case of this sort, where teeth are intact, one is naturally loth to have recourse to root filling and cutting down the crown, but taking all circumstances into consideration, with objects of retaining, as far as possible, the masticatory apparatus, I am inclined to consider this the only rational solution. Inlays carried from one tooth to another in a fixed bridge can only be prevented from loosening by posts in all the roots, but when this has been done it is almost impossible to remove the bridge in case of fracture. It is also impossible to extend the bridge in the event of an adjacent tooth becoming loose; an easy matter with the removable system.

My experience of these and many other cases leads me to the conclusion that *fixed bridges with more than two should never be employed abutments.*





## Report of Clinics Given Before the Colorado State Dental Society.

### **Cast Splint for Pyorrhea Teeth.**

**By Dr. E. J. Kelly, Colorado Springs, Colo.**

Dr. Kelly was excused, not being able to get clinic ready.

The clinic was to have been a cast splint for pyorrhea, using soft platinum pins about 20-gauge for canals, using models of equal parts of silica and plaster or making patterns direct to teeth. If model is used, take compound impression with pins in place, allow to set over night and separate with dry heat.

Barb pins well and let them extend above wax, so that the pattern can be easily removed. Take pattern of each lingual surface separately. Do not attempt to cast all at once. Cast each lingual section separately and solder together. Fasten sprue wire at right angles to mesial or distal surface, so as to cast onto your pin and not by it. Advantage of splint is that no gold shows. Could be used with one or two swings for missing teeth. If you do not wish to devitalize, use thin pins parallel to pulp and as far away from pulp as possible.

### **Reinforcing Abraded Teeth.**

**By O. N. Williams, Fowler, Colo.**

Restoring badly worn anterior teeth by casting process, making a cast slipper-crown without band across front of tooth.

After gaining lateral space for thickness of 30 g. gold, take plaster impression and dismiss patient. Make model and trim about the gingival

## ITEMS OF INTEREST

line and free from adjacent teeth. Burnish No. 4 tin foil about tooth on parts to be covered. Fuse the inlay wax on to depths of required restoration. The tin foil permits of easy removal from plaster model preparatory to casting. Remove, invest and cast as any gold inlay, the tin fusing out in the process. In setting the finished piece burnish the mesio-distogingival corners to aid in retention.

### **Sanitary Molar Crown.**

**By Geo. R. Lindsay, Grand Junction, Colo.**

Realizing that the shell gold crown is unsightly as well as unsanitary, the author offers a crown carrying a porcelain tooth on a cast saddle with the root, leaving no shelf for the lodgement of debris or to cause irritation of the gum margin; thus the interdental space is protected, making the crown easily cleaned and kept clean.

### **Table Clinic.**

**By Chester E. Farrell, Gothenburg, Neb.**

This clinic consisted in showing the proper way to mix amalgam.

Also the use of the Crandall matrix made by ligating a piece of 36 gauge copper to form the missing wall of the tooth in which a V-shaped slit is made proximating the contact point of the proximating tooth. After the filling is partially crystallized the matrix is removed by gripping either end of the matrix with pliers and breaking in two, thereby not disturbing the contact point.

### **Porcelain Inlay Using Baked Rods.**

**By W. C. Chambers, Denver, Colo.**

Use of porcelain inlay rods for small pits so frequently found in Hutchinson teeth or imperfectly developed teeth.

Many times such teeth will be partially devoid of enamel and so thin labio-lingually at the occlusal third that the pits will extend through. Where they do extend through the thin cutting edges or nearly so, a small round bur, No. ½ is used to prepare the cavity and followed by the next size, and so on until the stain is removed. By using the smallest bur to begin with, the danger of fracturing the delicate cutting edges is largely eliminated. The last round bur carefully passed through will produce a perfect uniform cylindrical cavity. The rod of proper shade is then selected, like the How inlay rod, only very much smaller, and ground to correspond, as a piston in a cylinder. When fitted, the cavity formed



## ITEMS OF INTEREST

is filled with cement and the ground rod gently inserted. When cement has set the rod is cut labially and lingually with a diamond or carborundum disk and finished with stones and disks. When a tooth is of normal thickness, or nearly so, the cavities can be made very shallow and the rods retained. These rods in thin cutting edges serve to add strength, as the necessary cutting is not sufficient to weaken the tooth. They do not discolor as does the ordinary inlay baked in a matrix, and the cement line is not noticeable.

### **Method of Making a Crown, Using Steele's Facing.**

**By R. K. Cross, Denver, Colo.**

Taking an iridio-platinum pin of about 16-gauge, having previously selected a Steele's facing, grind the upper part of the pin so that the facing will slide on. The upper part of root canal should be made large enough to admit the inlay wax which is now inserted to envelope the middle section of the pin. The impression is removed, the facing removed, the casting made and polished. This may be used in a single-rooted tooth as an attachment, or in a two-rooted tooth, attaching the facing to the buccal pin. If additional strength is desired a little solder may be flowed on gold around the post.

### **Analysis of the Human Articulation.**

**By F. W. Frahm.**

This clinic was illustrated with photographs and specimens of the human head and mandible, setting forth the peculiarities of the temporo-maxillary articulation, the shape of the inferior maxillary bone, as well the two arches of teeth.

These points were brought out to show that the law of average can no longer be considered by scientific men. The clinician also showed a face bow and articulator that embodies all the features set forth and meets every requirement of each individual case, no matter how peculiar. The face bow and articulator will be known as Frahm's Compensating Anatomical Articulator and Face Bow.

### **Home-Made Steele's Backing.**

**By J. L. Buchanan, Wray, Colo.**

To make a Steele's backing, first buy a package of No. 8 sewing needles, cut the head or eye off, put the sharp end in a broach holder. Second. a pair of large fence pliers or wire cutters about eight inches long. Cut a half-round groove in each jaw of pliers the right distance from

## ITEMS OF INTEREST

end. This can be gauged by a Steele's backing ready made. Bend gold around needle, pinch up so it will hug needle closely and pinch it in the pliers with the grooves. Flow solder on lingual side, which will fill up tube where needle has been. Cut off end of tube with saw and file. Backing can be reinforced by soldering a piece of plate on back.





## Practical Hints on Office Sanitation.

By JOHN S. MARSHALL, M.D., Sc.D., Captain, U. S. Army, Retired.

*Read before the California State Dental Society, June, 1913; Oregon State Dental Society, June, 1913; Washington State Dental Society, June, 1913; Utah State Dental Society, June, 1913.*

If I were asked the question, "What in your judgment is the crying need of the dental profession to-day?" I would unhesitatingly say, *A better knowledge of and a higher regard for sanitation in surroundings and asepsis in practice.*

Sanitation and asepsis as applied to dental practice are so closely associated with each other that it would be difficult to discuss one without frequently entering the domain of the other, while these allied subjects are so broad that it would be impossible to cover them, even in a superficial way, in the time allotted for this paper.

I have therefore thought it best to confine my remarks to "Practical Hints on Office Sanitation," and feel sure we shall find enough to interest us for discussion.

Sanitary science teaches the prevention of disease and the promotion of the public health. Asepsis, from the surgical standpoint, means germ-free; free from all micro-organisms that can produce putrifaction or cause inflammation and suppuration, or other diseases, and preventing them from entering the body through external wounds or abrasions.

In order to prevent disease we must exclude all agencies which produce it, and when disease has once been established, we must remove the cause as quickly as possible, and prevent the further entrance and propagation of the morbid agents. This is the work of sanitation and asepsis.

## ITEMS OF INTEREST

I have been shocked at the seeming ignorance or utter disregard for the fundamental principles of sanitation and asepsis exhibited by so many dental operators in their practice.

Go into the operating rooms of the dentists of any city, or the clinic rooms of even our best dental colleges, and I venture to say that 75 per cent. of them are unsanitary as compared with the clinic rooms or the operating rooms of the average hospital; while the practice of aseptic methods in dental operations is neglected to a still greater degree.

Why do dentists fail so often in the treatment of inflammatory and suppurative conditions of the teeth and mouth? I answer, because of a lack of proper sanitary conditions in their surroundings and the absence of aseptic methods in their operations.

Are rooms covered with carpets or rugs sanitary from a surgical standpoint? Are instrument cases or laboratory benches sanitary that contain discarded dentures that have done service for years or contain extracted teeth that have been tossed into a drawer for future study? Are old crowns or bridges with natural roots or abutments still attached, to be stored in an instrument case supposed to contain sterile instruments?

These are some of the skeletons, gentlemen, that are hidden in our professional closets that need to be brought to the light of day.

Are nerve broaches that have once been used, or rubber dam that has once been in contact with the mouth, ever rendered aseptic again by the methods of sterilization usually employed in the average dental office?

I leave you to answer.

I would not dare tell you what I have seen along this line.

Why use a nerve broach upon more than one patient, or the rubber dam a second time, even upon the same patient? Why use a second time, modeling compound and impression wax?

This is a *false* and *dangerous* economy. These things cost but little, and are very difficult to sterilize.

Dentists have frequently been charged with inoculating their patients with syphilis and other diseases by imperfectly sterilized instruments, materials and appliances, and the charge is no doubt true with those who pay no attention to sanitation and asepsis. The same charge has been made in relation to certain nose and throat specialists, and this charge is no doubt also true.

The treatment of dental and oral diseases *is surgery*, and should, therefore, be surrounded by all the surgical precautions that are practiced to-day in the treatment of all surgical diseases and in operations of even the most trivial nature. The same care should be exercised in the opening of an alveolar abscess that would be exercised in the opening

of an abscess in any other portion of the body. The removal of a devitalized pulp in the stage of putrescence should receive the same surgical care that would be exercised in the removal of any other nidus of infection, located in any other portion of the body.

The day is not far back in the past when the dentist was classed according to his proficiency as a mechanic and his skill as a manipulator of the precious metals. To make a good gold plate that one could masticate with, and to insert a good gold filling that would shine like a locomotive headlight, was considered the acme of dental achievement, and these were the things that made American dentistry famous.

To-day there is much required of the surgeon and the dental surgeon besides mechanical and manipulative skill, things that were not dreamed of when I studied dentistry and medicine; and the man who would practice either dentistry or surgery as taught in those days would be *taboo* in any society of present-day professional men.

Antiseptics were not known at that time, and asepsis, as we understand it to-day, was not discovered until long after.

These are the days of *progress*; progress in intellectual and educational pursuits; progress in the arts and sciences; progress in business, in politics, in government, in religion, in fact, in everything. It behooves us, therefore, as dental practitioners to keep step with the progress that is being made in the arts and sciences and to adapt to our uses as far as we can those discoveries and improvements in methods that apply to the prevention and cure of disease. The man who does not do this cannot hope to be a successful practitioner from the highest standpoint.

The future health and comfort and often the life of our patient is dependent upon our knowledge of sanitation and asepsis, and the degree of skill with which we employ these sciences.

It is only very recently that the dental and medical professions have come to realize what important factors dental and oral diseases are as causes of many grave local and general physical disorders and mental conditions; and how quickly and completely many of these grave conditions have disappeared when the dental and oral diseases have been eradicated.

I wish there was time to go more fully into this part of the subject, for it is exceedingly important, interesting and instructive, but this cannot be done if I am to come to the gist of my subject, viz: Practical Hints on Office Sanitation.

I shall include in this discussion of office sanitation, the operator, the assistant, the office proper, including environment and furniture, the



## ITEMS OF INTEREST

operating room and its fixtures, the instruments and appliances and their care, and, lastly, the patient.

The most important part of the office is the operator. I feel a little hesitation in approaching this part of my subject, and I hope I shall not be misunderstood if I speak somewhat plainly, for my object is not to criticise, but to point out some of those things which to my mind need improvement along sanitary lines.

First, then we will speak of personal cleanliness.

The operator should be a man who loves his daily bath; who is not happy unless his body is clean upon the outside; may I suggest also, that he should be clean inside, clean in thought and speech—that his morals should be beyond reproach—that he should be a gentleman through and through—so much of a gentleman that no mother would hesitate to send her daughter to his office unattended.

He should dress for the operating room in white, washable clothing—linen or cotton duck. This outfit should consist of a gown or coat with standing collar and buttoned close from the collar down, white trousers, white shoes and a white cap to cover the hair. Do not wear woolen clothing in the operating room, for nothing is so unsanitary. It is filled with dust from the street, and street dust is so filthy as to be unmentionable. It is loaded with every form of pathogenic micro-organism, from the bacillus tuberculosis to the bacillus tetani.

Many an otherwise aseptic operation has been rendered septic from the dust rising from unsanitary clothing.

The care of the hands is a very important matter in aseptic surgery, and the dentist must be as careful in cleansing his hands if he would make an aseptic operation, as is the surgeon.

In washing the hands, use hot sterilized water and plenty of liquid surgical soap, and scrub them well; especial attention must be given to the finger-nails, being sure to remove any and all accumulations from beneath them. Wash and scrub them two or three times, using fresh water each time, then bathe them in alcohol, clean the finger-nails a second time and again bathe the hands in alcohol.

If you have been faithful in this your hands will be comparatively free from infectious material.

Keep a finger-bowl on a stand near you, half filled with alcohol and perfumed with a little cologne, in which the hands may be dipped frequently for sterilization and to remove bad odors, especially when operating upon devitalized teeth with putrid pulps. Another important matter is, that the operator shall keep his own mouth clean; keep it in a sanitary and hygienic condition.

The conscientious dentist has always taught his patients the great value of oral cleanliness as a preventive measure against dental and oral diseases. He should therefore practice what he teaches and let his teeth and mouth be his best witness that he takes his own teachings to heart.

I have seen many a dental operator whose mouth looked as though it needed the services of a scavenger; many a one whose breath was so sickening from an all-night good time—God save the mark—that it was unendurable even to a strong and robust person.

I have seen others whose teeth and mouth were most repulsive from the habit of tobacco chewing; and others whose teeth, lips and fingers were stained a dirty brown from cigarette smoking and whose breath from this habit was so vile as to make a sensitive person positively ill.

And yet these men have wondered why it was that *would-be patients*, after having had an examination and making an appointment, have a few hours later or the next day, either by phone or special messenger, cancelled the appointment and never returned for the contemplated treatment.

If the operator has an unsanitary and diseased mouth, how can he avoid infecting his patient with the poisonous emanations from it. His own filthy mouth infects the surrounding air with every breath expired and with every word spoken. A filthy mouth is always a malodorous mouth, the degree of malodorousness depending upon the other personal habits of the individual.

No self-respecting person would for a moment submit to be treated a second time by such a man—a man who neglected personal cleanliness.

The use of tobacco, especially cigarette smoking, and the use of alcohol in any form, causes a malodorous breath, and when combined with the emanations from a filthy mouth is positively sickening.

No dentist who continually neglects to keep his own mouth in a sanitary and hygienic condition can hope to be a successful practitioner.

The dental assistant, if she is well trained, is an invaluable personage in the office and the operating room. By well trained I mean one who understands the requirements of the surgical operating room. In other words, a young woman who has been trained as a surgical nurse. These young women demand good pay, and they are entitled to it, for they will save the operator much valuable time otherwise spent in looking after the details of office sanitation and keeping the instruments, appliances and materials in an aseptic condition, and which time can be spent to better advantage by the operator from the remunerative standpoint, and this work better done than he could do it himself.

The special dental training necessary to fit a woman of such intelligence and education can be acquired in a few days.

## ITEMS OF INTEREST

Such an assistant would never dream of appearing in the office or the operating room except in a clean white uniform, or allow an instrument or an appliance to be used that had not been properly sterilized. In these things she would be an autocrat, thus relieving the operator of much anxious thought and watchful care so often necessary with the ordinary untrained dental assistant.

### **The Office.**

The dental office, in my judgment, should always be in connection with the home of the operator. This idea of physicians and dentists having their office in downtown business buildings savors too much of the country village or cross-roads, where it is thought necessary for the tavern, the church, the blacksmith shop and the doctor's office to be near together.

Why this especial grouping should be thought necessary passes my comprehension. So far as the doctor and the dentist are concerned, one would think the causes which force people to visit these professional gentlemen were entirely of a private nature, and that the delicacy and modesty of their patients would be better conserved and respected if they were not obliged to seek for such services in public places.

In such an environment as the home the dentist is able to control the sanitary condition of the premises, and with a little care be absolutely free from the pestiferous and dangerous presence of the ubiquitous house-fly which carries upon its feet the very infectious material that we are trying to prevent from entering our operating rooms and contaminating our instruments and appliances. For this reason, all windows and outside doors should be screened. Carpets and rugs should be excluded from all parts of the office; wall paper, upholstered furniture, portieres, lambrequins and lace curtains should have no place in rooms that are to be used for dental offices, or, in fact, anything that will hold dust. The walls and ceiling should be painted, the floors should be of concrete and painted, so that they may be washed as occasion required with an antiseptic solution. As a compromise, linoleum may be laid or hard wood floors in the waiting room and dressing room, but nothing is so sanitary for the operating room as concrete, well painted.

The furniture of the waiting room may be of wood, well painted or varnished, and of such form as to be easily cleaned. Elaborately carved furniture is out of place, for the reason that it is very difficult to keep clean.

### **The Operating Room.**

This should be furnished throughout with white enameled furniture, preferably enameled steel. The arms of the operating chair should be of porcelain, the seat, back and headrest of enameled steel, shaped to fit the contour of the body and the head.

These should be covered with clean towels or special covers made for the purpose and changed with each new patient. The bracket table should be fitted with at least two removable enameled steel or glass trays, and a sterile one placed upon the bracket, upon the entrance of every new patient.

The most difficult piece of furniture to keep clean is the fountain cuspidor. This should always be fitted up with *hot* as well as cold water, so that it may be treated to a washing with scalding water after each patient. Boiling water may now be furnished in two or three minutes by the use of one of the many instantaneous water heaters now upon the market. This is easily provided for if your office is in your own home. The cuspidor should be fitted with a metal bowl. Brass is the best.

The stationary wash-basin should be fitted up with foot levers for turning on the hot or cold water and for emptying the bowl. The operator's hands, nor those of his assistant, should ever come in contact with anything but the patient and the instruments and appliances after they have once been prepared for the operation.

Individual drinking cups should be invariably used in the operating room and the office.

The sterilizer may be placed in the operating room to economize space, but it is better to have a small room just off from the operating room for this purpose, fitted up with a wash-basin like that described for the operating room and two enameled tables for the instruments, one to receive the soiled and the other the sterilized instruments.

In this room there should be a closet containing an enameled chest to receive the soiled linen and this should be washed with an antiseptic solution every time it is emptied. All laundry work should, if possible, be done at home, for reasons that are obvious.

#### **Instruments and Appliances and Their Care.**

All dental instruments should be constructed of materials that are capable of being sterilized by boiling. No instrument having a hard rubber, bone or a wooden handle should have a place in any dental outfit. These handles are spoiled by boiling, and are unsafe to use without this thorough sterilization. Boiling is the best method of sterilization. To the water may be added a small quantity of sodium carbonate. The instruments should remain in the boiling fluid for from fifteen to thirty minutes. For ordinary cases fifteen minutes is sufficient, but in cases of syphilis or suspected syphilis, the instruments should remain for the longer period.

When you operate upon a syphilitic patient, or one suspected of having this disease, be sure to protect yourself against inoculation by wearing sterilized rubber gloves.

## ITEMS OF INTEREST

In this connection, let me recommend that you keep close watch of your hands for small wounds, abrasions and hang-nails, as these are *atria*-points of entrance for infectious material to enter your own system. All such places should be carefully sealed with liquid collodion before beginning any operation. The saliva of a patient not suffering from disease even is often very poisonous to another person. Cases are on record showing that the bite of such an individual has caused death.

But I hear some one say: "I never have syphilitic patients coming to me. My clientele is made up of the best people in my neighborhood or my town." All the more need, my friend, for you to be careful, doubly careful. Did you know that it has been estimated that in our large towns and great cities every tenth young man that you meet upon the streets is affected with some form of venereal disease, or has been so affected, and that many of these cases are syphilitic?

Did you know that it has been estimated that there are five million syphilitic persons in these United States. *Five* per cent. of the entire population of one hundred millions. This includes the acquired and hereditary cases.

"Blaschko claims that in Berlin there is one syphilitic in every nine to ten people; Strohmberg estimates that among the students of the University in Dorpat twenty-four per cent. take syphilis home with their sheepskins." (Quoted from Victor C. Vexki, M.D. "The Prevention of Sexual Diseases.")

This is a frightful showing, but is doubtless not much worse, if any, than in other large cities of Europe and America.

How, then, do you escape having your share of these cases calling upon you? These are the very people who sooner or later have to consult the dental surgeon for surgical treatment of the mouth.

I fear that your knowledge of the diagnostic signs of this dreadful disease is not what it should be for the safety of your patients and for yourself.

During the secondary stage of the disease the saliva is particularly infectious, and the utmost care must be exercised in preventing inoculation of your hands and of infecting your other patients through imperfectly sterilized instruments and appliances.

One of the most important things for a dentist to know is the manifestations of syphilis as seen in the mucous membrane of the mouth and throat.

Among the instruments and appliances that are very difficult to sterilize by the ordinary methods usually employed in dental offices are nerve broaches, rubber dam, modeling compound, and impression wax.

An imperfectly sterilized nerve broach will infect a pulp canal which

a moment before was sterile, as in removing healthy pulps under local or general anaesthesia. A piece of rubber dam that had been used upon a patient with unsuspected syphilis may infect an innocent person and bring down upon him or her the unmerited reproach of being impure and vicious, thus blasting the reputation and ruining the character of an entirely innocent victim, and all because of a penny-wise economy.

The same may be said of modeling compound and impression wax. Let me ask you, gentlemen, do any of you care to be the cause of such a wrong, such a stupendous calamity as that just described? No! *thrice* No! you say.

Then, for the sake of the health, for the sake of the good name, for the sake of the life of an innocent and confiding patient, from this time on and henceforth do not try for a *few cents* to economize on your office expenses at the risk of the health, reputation or life of your patient. Throw these things into the fire and destroy them forever.

Do you sterilize your hand pieces? Most of you do not. Wiping with a dry towel or a napkin is usually all they get. Occasionally they are wiped with an antiseptic solution, and this is considered sufficient. This is not sterilization.

These instruments should always be thoroughly sterilized to prevent the carrying of infection. The sleeve of the straight hand piece may be boiled; the balance can be sterilized by placing it in gasoline.

The right-angle hand piece, on account of its mechanism, cannot be boiled, but it may be rendered completely sterile by immersing in gasoline, as recommended for the mechanical parts of the straight hand piece.

I would recommend that you always have duplicates of these instruments, and when not in use may be kept in alcohol 95 per cent. after they have been sterilized.

The rubber dam holder is another appliance that is capable of carrying infection, through the rubber tape that is used upon it. Cut this off and use a fresh, clean piece of cotton tape for every patient, and send the metal parts to the sterilizer.

Where do you keep the mouth-piece of your fountain saliva ejector? Hanging upon the rim of the cuspidor? Or do you sterilize it by boiling and then place it in a jar of alcohol? I hope the latter is your method.

Do you ever sterilize your water syringe or your chip blower? These can be boiled without harm and should be so treated after use. If the rubber bulb gets hard after a few baths in the sterilizer, put on another; they cost but little.

How do you sterilize your mouth mirrors? Not by boiling, of course, as that would ruin them almost immediately. These instruments can be

## ITEMS OF INTEREST

thoroughly sterilized by washing and scrubbing them in warm water and soap, immersing them in full strength liquid carbolic acid or lysol, rinsing and immersing in 95 per cent. alcohol until needed again.

Are you careful to sterilize your hypodermic syringe that you are using for local anaesthesia? The points, of course, you sterilize; but do you boil the whole syringe and wash it with alcohol?

Do you sterilize the mouthpiece of your gas apparatus after every patient upon which it has been used? I know of no more certain way in which pulmonary tuberculosis or syphilis can be carried from one patient to another than by the use of an unsterilized mouthpiece. How many have thought of this?

Do you sterilize your burs, burnishers, drills, reamers, stones, and corundum disks? All but the last named should be boiled in the sterilizer; the latter may be rendered sterile if treated as recommended for the mouth mirrors.

Do you use polishing points a second time? I hope not. No rubber, wood, or bristle polisher can be rendered sterile without boiling.

I hope you thoroughly sterilize your impression trays after using them by a thorough boiling. I have seen an impression tray taken from the drawer of the laboratory bench, with the remains of the last impression still clinging to it, and used after a simple rinsing under the cold-water faucet. None of you do this, of course. It is only the other fellow that is guilty. These methods, gentlemen, are the relics of the teaching, or, more correctly, the lack of teaching, of your and my Alma Mater.

You all know this to be true. Is it not time then that our schools should awaken to this situation and teach their students the necessity and the value of a clear knowledge of sanitation and asepsis in dental practice?

It is not a pleasant nor a delicate question to ask  
**The Patient.** your patient before taking him into the operating room, and yet it not infrequently must be done: "Have you brushed your teeth?" or "Did you brush your teeth before leaving home?" If he has not, it can be explained to him that you are extremely anxious to do everything you can for his comfort and to insure a cure of his malady, but that it would be unsafe from a dental or surgical standpoint to operate in a mouth that had not been thoroughly cleaned with brush and water just before operating. A suggestion of this kind is never required a second time except with children.

This is usually the first lesson in oral hygiene that your patient has received, and opens the way for further instruction, that will be more and more appreciated as your patient comes to know you better and learns that your only object in such instruction is to do him good.

It was my custom when in civil practice to keep on hand a stock of tooth brushes for sale, and if the patient had not brushed the teeth before coming to the office, my assistant would hand the patient a new brush and a glass of water, show him or her to the dressing room and say: "The brush will be added to your bill." I always objected to doing anything for a patient that he could do for himself. I would not play the rôle of a mouth scavenger for anyone, no matter who the person might be. But if my patient was unable to do this through illness or any other reason, I was willing to play the part of scavenger or perform any other lowly office.

I spoke just now of the contamination of the clothing with street dust and the dangers of infection from this source. For this reason the atmosphere of the operating room should, as far as possible, be protected from the dust that might be shaken off from the patient's clothing. This can best be done by having several long-sleeved gowns made of various sizes, or purchase at a surgical supply house a number of surgical gowns such as are worn by the nurses and the operators in the surgical amphitheatre.

One of these sterilized gowns can be placed upon the patient while in the dressing room and a cap of the same material placed upon the head to cover the hair. Many very clean people have oily, dirty hair, as you will soon discover after they have worn the cap. The necessity for this care when once explained to your patient will be readily acceded to, and your standing in his or her estimation will be much exalted, and you will be given credit for being a painstaking and careful operator.

These are the things, gentlemen, that our patrons are going to require of us as soon as they become educated along the lines of dental sanitation and hygiene, and that day is *almost here*.

Do not wait until your patients demand it of you.

Do not let them lead you in matters in which you should lead them. Be progressive. Be leaders in your profession, not followers.

I hear some one say: "Such a régime would greatly increase our office expenses. We could not afford it." Keep an office expense account, and whatever increase in cost has accrued, charge up to your patients by increasing your fees. This is legitimate and honest, for it is all in the interest of your patient and for their good.

A reasonable person will not object to such an increase in your fees, but will thank you for your thoughtful care of his best interests.





## Telling the Public About Dentistry.

By W. A. BRIERLEY, D.D.S., Denver.

*Read before the Colorado State Dental Association, Manitou, June 19-21, 1913.*

At a meeting of the Chicago Dental Society last winter, Dr. Chas. Mayo, one of the eminent Mayo Brothers, made the statement that "the next great step in medical progress in the line of preventive medicine should be made by the dentists," and added the question, "Will they do it?"

Such a statement and such a question, coming from such a source, is attracting much attention in the ranks of our profession. Dr. Mayo's scholarly lecture went deeply into the subject of the mouth as the source of infections which cause a multitude of lesions, many very remote from the mouth. Among other things he said: "Looked at from every standpoint, the mouth may be said to be the great portal of entry for pyrogenic organisms. Many species and varieties find a foothold in the tonsils, lymphoid tissue of the pharynx, and about diseased teeth and gums." The cause for many forms of "stomach troubles" and "dyspepsias" can be found in infections from the mouth. A case of appendicitis was reported, which, upon removal of the appendix, gave a pure culture of the same strain as that cultivated from a diseased tonsil removed at the same time. "Endocarditis is an infectious disease producing vegetations and ulcerations on the valves of the heart and injury of some of the larger vessels. This infection is carried to the circulation most frequently from the infected tonsil."

The answer to Dr. Mayo's question, "Will they do it?" is already on its way, and is coming, I believe, from some such source as the Forsythe Dental Infirmary, or the just recently organized Scientific Foundation Fund and Research Commission of the National Dental Association.

But along with the work of the scientists and laboratory workers must go a stupendous work of education, of publicity. To keep the mouths of the world clean the dentists must have the co-operation of the owners of those mouths. To tell the people to use a good tooth powder or paste, and to brush the teeth twice or three times a day, is good enough preaching from the laity, but a dentist must say more. It is the province of the dentist alone to educate the people to the importance of extreme oral cleanliness. We know the importance of oral cleanliness, and often demonstrate to our own satisfaction that the placing of the mouth in a condition of health will cure diseases apparently systemic in their nature. Physicians are beginning to know it, and let us be thankful for that, but

humanity at large does not know these things. The people are looking to us for information, and they have a right to do so. As one writer puts it: "Think what this education would mean in preventing many of the infectious conditions now found and treated by specialists of the throat, nose and ear, of stomach and intestinal disorders, where the products of bacterial digestion in the mouth are being constantly swept into the system. No one would eat tainted meat or fish, sour milk or a stale egg, yet these are but undergoing bacterial digestion—the same that takes place in the mouth."

While to-day the great mass of our population have an extended general education, their information concerning disease and treatment comes largely from the advertising columns of newspapers and magazines. They get their knowledge of dentistry and the proper cost for it from advertisements which never mean what they say. Because of the prevailing ignorance of the public upon these subjects, it is little wonder that the unscrupulous advertising dentist is generally a busy man.

**Ignorance of  
the Public.**

A few years after graduation, two dentists who had been class-mates at college met on a busy street corner. Since leaving school one had been an advertiser, while the other was "strictly ethical." In defending his methods of practice the advertiser said: "Just watch this crowd of people pass for a few minutes and tell me what proportion of them look as if they knew good dentistry from bad." After scrutinizing the passersby for a few minutes the ethical man replied: "About one in ten." The advertiser remarked, "You get that one while I get the other nine."

Any system of publicity to be effective must be broad enough in its scope to reach the great crowd of those "who do not know"—the great nine-tenths who are now at the mercy of the fakirs for information concerning the care of their teeth. This will all take time and perseverance. The public learns slowly. The modern ethical dentistry has only to come out into the open and tell the plain truth about itself to command the respect and patronage of humanity in general.

**Influence of  
Free Dental  
Clinics.**

To my mind, the work being done in the free clinics for school children leads everything as an educational and publicity feature. The time is not far distant when every city and town with any pretense of being "up-to-date" will be providing free dentistry for their school children. From these clinics thousands of children will go out cured of ailments, which, if neglected, would surely handicap them in the development of their mind and bodies. The free dental clinic

## ITEMS OF INTEREST

for school children is no longer an experiment. No matter where you live, you are justified in insisting that your public school authorities provide for the dental needs of poor school children. The school clinics make a good subject for special articles in the newspapers, and along with such articles a lot of good, wholesome information regarding care of the teeth and cleanliness of the mouth can be worked in.

### **Health Department in Newspapers Suggested.**

The medical profession has writers like Dr. Evans and Dr. Woods Hutchinson, and others, whose articles in the popular magazines and newspapers are always interesting and instructive. Newspapers are printing so much on health matters that it would seem as though a health department, under the direction of a "health editor," would soon be considered just as essential as the other departments, such as "sporting" or "financial," presided over by special writers. A capable health editor would protect his paper, as well as its readers, from being imposed upon by the sensational cures for almost every ailment, a new one being announced almost every day, only to be found out later to be fakes of a greater or lesser degree.

Dentists who could tell in an interesting way the wonderful and important truths about the human mouth, and how it should be respected and cared for, would find the publishers ready to print and the public willing to read their articles. The possibilities of this grade of high-class publicity are great and ought to appeal to the members of our ethical dental associations as being worthy of their best efforts. The proper instruction of patients at the chair offers a big field for our careful consideration. That subject has previously been presented to this association, so I will not dwell upon it at this time.

### **Moving Pictures.**

As an educational feature we must not overlook the moving picture. Millions of people can be reached by this method. Telling the public about dentistry is a cause in which it would seem that "the end justifies the means." Any among our members who think the "movie" is undignified and sensational might just as well get that notion out of their systems. The moving picture as an educational force is an established fact.

The National Mouth Hygiene Association has elaborate plans for telling the public about dentistry. They tell us that \$14,000,000 was spent last year in treating and preventing tuberculosis by societies organized for that purpose. The mouth and teeth as a source of the germs of consumption has so far been little considered. One can readily see what a field there is for telling what good dentistry means in preventing and treating this disease alone.

It is generally understood that in the near future there will be created a department of public health in connection with the United States Government. When that department is formed the dental profession should be given special recognition and consideration.

The Mouth Hygiene Committee of The National Dental Association is always active in this matter of public education, and doubtless they have extensive plans for the future.

The necessity for encouraging these wider movements, looking to telling the public about dentistry, can be realized when we know that it is estimated at present that only about one person in eight consults a dentist. The crowds are outside of our offices, so any message we have for them must be carried outside to them.

I do not doubt for a minute that the dental profession will give a creditable answer to Dr. Mayo's question. But of equal importance to learning how to eliminate the mouth as a focus of infection, is the problem of getting a chance to do so. When the masses have been taught the necessity for mouth cleanliness, then the consummation of this "great step in medical progress" will be a possibility.

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### **Silicious Cements.**

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By R. W. PARKER, D.D.S., Chicago, Ill.

*Read before the Colorado State Dental Association, at Manitou, June 19-20-21, 1913.*

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Were it not that a reliable translucent cement has spelled millenium in dental practice, and were it not that such cements seem an assured fact, the experiences of practitioners who have been willing to test out the silicious products offered from one source or another might fill a gloomy page. To bring the subject before you I cannot do better than recite my own experience.

During 1906 and 1907 it was my good fortune to have the opportunity, while convalescent from an illness which had forced me to give up active practice, of testing in the laboratory, and to a somewhat less degree in the mouth, the various silicious cements then on the market. Their various negative qualities, as discovered by the tests and as complained of by those using them in every-day practice, were noted, and the experiments in the laboratory carried out, with the idea in view, if possible, of getting some accurate data as to where the troubles lay. While this experience afforded me no very *marked* special equipment to cope with the troubles and difficulties incident to the use of silicious cements, yet when I resumed active practice early in 1908 it certainly was no hindrance. The fascination of and interest in the

## ITEMS OF INTEREST

work of experimentation led me to take up the use of these filling materials with zeal and no little enthusiasm.

I had found in my laboratory work that some of the silicious cements shrink, that discoloration was a nearly universal fault, except with a very limited number of shades, and that the death of the pulps under these fillings, a thing so often complained of by many, was no doubt due to the long-continued presence of free acid because of the slow setting of the fillings. I had at any rate been able to select from the list the best for use in the mouth, and was conversant somewhat with the negative qualities incident to their use.

We have it from observers of the early silicious cements that with Dentos and Archite shrinkage would have been a fatal defect, even had there been sufficient merit otherwise. With some other early silicious cements shrinkage was too much in evidence.

### **Ascher's Enamel.**

The Ascher enamel, after it had been on the market for several years, probably offered the possibility of practical manipulation, although I shall expect many of you to gainsay this.

In February, 1908, with this material I made in my practice the first of my silicious cement fillings, confining myself to those shades seeming in laboratory tests to give permanency of color and freedom from sulphuretting and expecting to secure results calculated to conserve tooth structure as it could not be conserved with other shrinking materials.

This initial effort was followed during the succeeding few months with quite a number of other fillings in selected mouths and cavities, not with the enthusiasm that had led so many before me to ignominy and defeat, but with a hope that conservative and painstaking use might bring a fair percentage of favorable and happy results, and I do confess my reward was ample. True is it that an occasional filling in unclean surroundings discolored badly—an occasional one crumbled because of faulty or incomplete crystallization; some seemed to show shrinkage, and under a very few the pulps died and the teeth were discolored—but there were a majority that live yet to tell the tale of clean and useful lives. These fillings which did not discolor did not show perceptible solution nor shrinkage, and those under which the pulps will not die, were so beautiful and such a joy to patient and dentist alike that they afforded added enthusiasm and a desire for something better.

My laboratory tests with other materials as they were offered had demonstrated that a wider range of colors might be utilized.

### **The Schoenbeck Powders.**

It happened that in the late summer of 1908 I made satisfactory use of the Schoenbeck powders with a special quick-setting liquid borrowed from another cement, this combination giving absence of shrinkage.

The Schoenbeck powders having proven little subject to sulphureting or discoloration, and my work with the Ascher enamel having been limited by the necessity of using for the most part the No. 4 and No. 6 powders because of such discoloration in other shades, I dropped the use of the Ascher and took up the use of the Schoenbeck powders.

While it happens that I have subject to observation some satisfactory fillings made from Ascher's No. 4 and No. 6, and combinations of these shades, dating as far back as February, 1908, I have several hundred made with the combination of Schoenbeck's powders and the borrowed quick-setting liquid dating from the late summer of 1908 to the beginning of this year. They are doing satisfactory service, with no discoloration, except perhaps very rarely, and in so far as I know, no dead pulps. In fact, my experience has made of me almost an enthusiast, and I have no cause to regret that these silicious cement fillings have almost excluded the porcelain inlay from my practice and made the insertion of a gold foil filling in the anterior teeth almost a rarity.

**Technique  
of Manipulation.**

It is regrettable that with a material capable of giving such service as was possible with Ascher's enamel in a few shades there was so much erroneous instruction offered by its manufacturers. Even after they acknowledged that it was not good practice to pack the material with instruments smeared with vaseline, and had again and again modified their manipulation, they did not, up to the time of changing their formula to one giving very quick setting, grant and recommend that which I am sure is good practice, *i. e.*, warming the filling to accelerate setting after insertion.

I am convinced that many a pulp which lost its vitality was simply slowly poisoned by the long-continued presence of free acid, all of which might have been avoided by accelerating the setting by a slightly elevated temperature which could have had none other than the good effect of a hastened setting.

In my use of Ascher's and Schoenbeck's cements I attributed a large part of my satisfaction in their use to having adopted this plan, suggested to me by Dr. Ames, of thus hastening setting. In my early experience with silicious cements the time necessary for proper setting was so great, and the wait so tedious, that this feature furnished one of the chief drawbacks.

With the use of the Schoenbeck powders and the quick-setting liquid of another cement, although the results were in the main satisfactory, yet there were difficulties and sailing was not always smooth.

In warm weather, or when the operating room had become over-

## ITEMS OF INTEREST

heated in the colder weather, or when the mixing slab was warm, often-times the mix would set before sufficient time was given for proper insertion into the cavity, and a failure would result.

### **Ames's Berylite.**

While I have been somewhat familiar with Dr. Ames's work in the production of cements during the past six years, and especially with his work with the silicious cements, I was not encouraged by him to make much use of the material which he had named Berylite, and therefore I did not do much with it until he had really placed it on the market at the beginning of this year.

However, I had placed a few fillings as early as February, 1908, when he had begun to arrive at something tangible, and I kept those under observation and others from samples given me from time to time during 1909 and 1910. I had found that with this cement there had been produced the best range of tooth colors and shades I had yet seen, and that there was no shrinkage, and that fillings made of Berylite did not discolor, and, therefore, when announcement was made of its sale to the profession I took up its use, believing it deserved our careful consideration.

The results have been most satisfactory, and as Berylite possesses many qualities in manipulation which none of the other of the silicious cements possessed, I gradually discarded all for this.

It should be mixed with an agate spatula on a cool slab and thoroughly spatulated after enough powder has been added to the given quantity of liquid to produce a mass of the consistency in which it rolls up under the spatula.

At this consistency it should be carefully packed into the cavity to the desired contour and fullness. For this packing, steel instruments of the proper size and form may be used, provided they are bright and clean, and have first been coated with a thin film of paraffin. If a packing thrust is used, and not a furnishing motion, the paraffin will remain intact and the filling will not suffer discoloration from contact of steel.

It happens that Dr. Ames's Berylite is especially amenable to the heat treatment to hasten setting, and after the filling is packed the setting should be immediately hastened by subjection to heat. This result is best accomplished by the application over the filling of molten paraffin, the degree of heat thus obtained, provided the paraffin be not overheated, being the proper temperature to give the best result. Care must be taken not to overheat the filling with too hot paraffin, for this will evaporate the water of crystallization on the surface of the filling and produce a chalk-like appearance, which is undesirable.

In approximal fillings a thin strip of celluloid placed between the

teeth as a matrix is a great help, the free ends of the strip being drawn toward the filling after it has been inserted and the molten paraffin being applied on the surface of the celluloid just after filling. This celluloid strip will give contour and a fine surface to the filling. Any excess of the filling may be trimmed away with a thin, sharp-blade trimmer, or with fine discs or strips of cuttle or sand, which have first been treated to contact with the paraffin.

Care should be taken to keep the cavity dry during the operation. both of insertion and filling and subsequent trimming, and if there is doubt of ability to do this the moisture should be excluded by use of rubber dam. Whether the filling is finished at the same or at a subsequent sitting, it should be coated with a thin film of molten paraffin before subjection to moisture to allow complete and full crystallization.

My use of Berylite has made me enthusiastic over it. It sets promptly and the mass is very hard and admits of a beautiful finish and surface, which it retains. The colors furnished admit of combinations which will match the majority of tooth shades. It is translucent to the proper degree, and, as it does not set rapidly until submitted to heat, ample time is given without nervousness or hurry to properly place it in the cavity.

My observation thus far leads me to believe that the pigmentation is such that permanency of color is assured, and in addition it increases confidence to know that clinical and laboratory tests were carried on with this material for so many years before it was generally offered.

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### President's Address.

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By W. I. THOMPSON, D.D.S., Asbury Park, N. J.

*Read before the New Jersey State Dental Society, at Asbury Park, July, 1913.*

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*Members of the New Jersey State Dental Society:*

It is my honor and pleasure as President, to welcome you to the Forty-third Annual Convention of our State Society. We are all conscious of the great advances made in the practice of dentistry within the last decade, and most of us believe that this progress in a great degree is the result of influences exerted by the various dental societies, both State and local.

It follows, therefore, that if we desire great results we must have great interest and continuous activity in our Society. The future will demand perhaps even greater effort than the past, but loyalty and devotion to our profession and to this Society will enable us to accomplish all that may be desired.



## ITEMS OF INTEREST

The success of this meeting has depended upon the energy and efforts of the various committees, and I desire now to thank these committees, and particularly the chairmen of the Essay, Exhibit and Clinic Committees, for their efforts which have made possible the successful culmination of this administration. Working under difficulties known to us all, they have accomplished most satisfactory results, and I feel that I express the sentiments of a very large part of this Society when I voice my appreciation.

Let me recommend to your attention this year a subject which has been made one of the main features of our clinics and essays, *i. e.*, Mouth Hygiene. Public interest is aroused in this subject and I believe you will all profit by this feature of our program.

### **Appointments to the Board of Examiners.**

In Dr. Duffield's address in 1906 I find the following, which is pertinent at this time. Concerning the appointment of members to the State Board of Examiners, Dr. Duffield said: "There are, however, questions which should have our consideration at this time" (seven years ago), "inasmuch as they vitally concern the weal or woe of this organization. Since the last annual meeting of our Society it has been necessary to appoint a member of the State Examining Board to fill a vacancy caused by resignation. I should very much like to see a minute passed by this body making it obligatory that in such contingencies a special meeting of the Society should be called for action on the same, for while no better nor more capable man than the one appointed by Governor Stokes could be found, it makes possible the abuse of most excellent control which this Society possesses of our state dental foundation, *i. e.*, the Examining Board."

I will continue to quote from the discussion of the President's address published in the proceedings of the 1906 meeting. Dr. Chas. A. Meeker, following Dr. Adams, says: "I do not think I quite caught Dr. Adams' idea. Under our previous law, when there was a vacancy in the Board of Examiners the Society was called together to suggest a member to fill that vacancy, and they voted on the man whom they wanted and recommended his appointment to the Governor. That law was repealed. Why, I have never found out, but I think that is the proper way. I think the whole Society should have a voice in the matter of suggestion. There is an easy method of meeting the situation, however. Let some one offer a resolution that when there is a vacancy in the Board caused by death, resignation or removal for any cause, the Secretary of the State Society be authorized to call a meeting of the Society and then let the members present choose a member of the Society and send his name to the Governor and ask that he be appointed to fill the vacancy."

In quoting from Dr. Duffield's address and its discussion, my purpose is to call your attention to the fact that this defect in our law has again been taken advantage of during the past year, and the abuse which Dr. Duffield feared has occurred. The remedy has been suggested by the gentleman quoted in the discussion. I urge the adoption of this remedy at this meeting.

#### **Reorganization.**

Since 1908 each President of this Society has advocated reorganization. This administration is the result of continued efforts to effect reorganization. During the stress and confusion of the past two years it has been impossible to consider and choose the best method for its accomplishment. The time has come for further action in this matter, and I recommend to the Society the appointment of a committee which shall include one member from each local society to effect reorganization.

Some recommendations which I might make for your consideration are rendered unnecessary through the contemplated reorganization; such as the question of discrimination in membership and elimination of those who are unethical, and the matter of illegal practitioners, in which the State Society and our local societies should co-operate. I would urge, however, immediate action on those members reported to be unethical in their methods, who have gained admittance to this Society through faulty investigation at the time of their application. The applications of men recently graduated should be under consideration by the Society until endorsed by a local society of which the applicant should be a member.

#### **Practice Preliminary to License.**

There has been much discussion in State societies regarding the standard of preliminary educational requirements demanded of applicants to practice dentistry in the various States. While this has been and is important as affecting the educational and social status of the profession, there is a more important phase of the subject which might be discussed under the head of preliminary practice. I believe that good training is essential to good dentistry. While good training can be obtained in our colleges and universities, it is only the exceptional few who receive and assimilate the practical training essential to good dentistry, owing to the effort required to stand well in theory and the lack of time for practical work during the three years' college course.

Generally speaking, such training as might be deemed essential can only be obtained in a dental office under an experienced dentist. I am of the opinion that there should be a law requiring a course of study of thirty-six months instead of twenty-seven, the student to serve nine of these months in a dental office under a licensed practitioner of ethical



## ITEMS OF INTEREST

standing in this State before being eligible for license to practice dentistry in New Jersey. By serving each vacation in an office during his college course a student would be enabled to complete the requirements in three years; or, if he did not care to work during vacations he could serve nine months in a dental office in the State after receiving his college diploma. The student would thus receive at least nine months' practical training in the profession of dentistry before entering into general practice, which would prove a very valuable accession to his twenty-seven months of training in college. I believe such a law would be a blessing, not only to our students, but to the profession and public as well.

### **Payment of Society Debts.**

As a result of the unusual expense in which the Society has been involved during the past two years, a deficit for a considerable amount will be shown in the report of your Treasurer this year. It is necessary that the Society should maintain an established credit and regain a good financial basis quickly. With this in view, I would suggest that money now in the custody of the Committee of the Fund for Indigent Dentists be borrowed by the Society, if possible, at six per cent. interest, to be repaid as convenient from the dues collected by the Treasurer, the money so borrowed to be applied to the payment of our debts; and I will also recommend to you that the one dollar collected for this fund each year from each member be applied, for the present, to the payment of the debts of the Society. A fund for indigent dentists is a fine charity, but a fund for indignant creditors is a better business proposition. It is poor management to allow this fund to lie idle at low interest, if any, when it can be safely and legitimately used by the Society for pressing needs. It is unsatisfactory business to save money to give away when the Society is in debt and needs money with which to establish its credit.

Through the death of Dr. Stockton, chairman of the Committee of the Fund for Indigent Dentists, I found it necessary to appoint a member to fill the vacancy. Dr. Truex was appointed in Dr. Stockton's place, and Dr. Jones was made Treasurer of the fund to fill the office left vacant by the transference of Dr. Truex to the chairmanship. The legality of these appointments has been questioned by members of the committee, and I will therefore ask the Society to signify its approval by ratification of the appointments made.

During the coming year our Legislative Committee may find it necessary to be very active in safeguarding our dental laws and obtaining, perhaps, new legislation. I would suggest that the duties of this committee be more specifically defined in order that their work may be performed with satisfaction to the Society and to themselves.

The Society has lost through death during the past year six of its members, men of whom we have all been proud and whose names will be forever associated with the history of the N. J. S. D. S. I refer to Dr. Stockton, Dr. Chew, Dr. Hull, Dr. Richards, Dr. Kingsley and Dr. Marsh. Committees will be appointed to frame appropriate resolutions.

**Affiliation  
with the  
National Association.**

Let me ask your consideration of the question of affiliation with the National Dental Association. Many of the State societies have become constituents of the national organization, and all should be to insure its success. If the time has not yet come to give it our support, we should, at least, have the matter under consideration and be prepared to vote on the question without unnecessary delay.

**Panama-  
Pacific  
Congress.**

Let me call your attention to the Panama-Pacific Dental Congress which is being organized in California for the purpose of furthering the interests of dentistry during the Panama-Pacific Exposition in 1915. Many of us will no doubt attend the Exposition and may desire to become affiliated with this Dental Congress. Application blanks and information can be obtained from the Secretary.

**Law Suits  
to be  
Discontinued.**

During the past two years this Society has been subjected to internal strife which, for a time, threatened its very existence. Owing to a difference of opinion concerning the management and policy of the Society, two opposing factions have been engaged in a legal controversy which might well have been avoided. The victory has been lost and won, the questions at issue have been decided, and time alone can determine the final result. At Cape May, where peace was consummated in good faith and high intention, a gentleman's agreement was entered into by the opposing factions whereby each party agreed to notify their counsel to drop the suit, and it was further moved that each should pay their own legal fees and expenses. This agreement seems to have been a failure. The suit has not been discontinued and the legal fees have not been paid. We do not desire continued strife. The best interests of the Society demand peace, even at some cost in pride and considerable drain upon the finances of our organization. I would, therefore, very much desire that a minute be passed by this Society before final adjournment, that the Secretary be instructed to notify all counsel involved in this suit, on both sides, in the name of the Society, that the suit, if possible, be discontinued; and



## ITEMS OF INTEREST

further, that the Treasurer be empowered to arrange for the payment of all outstanding legal fees on both sides from the treasury of the N. J. S. D. S.

Let us try this year to eliminate all possible causes of contention, and make obvious to all our earnest desire for peace and harmony and the ultimate advancement of our profession through united and progressive effort in our State organization.





### **The Regulation of Teeth by Absent Treatment.**

In practically all dental statutes there is to be found a paragraph to the effect that nothing in the law shall be construed to prohibit the mechanical man from working out of the mouth on inert matter. Primarily the intent was that the law should permit a legal practitioner to employ a laboratory man, a mechanic, to conduct the purely mechanical construction of prosthetic work, under the direction and supervision of the dentist himself.

From this permissive grant in the law there has come into existence a state of affairs which was never conceived by those that wrote the laws, and which should no longer be tolerated by a profession that professes to safeguard the community.

From the hired mechanic in the private laboratory has evolved the independent mechanical laboratory, soliciting work from dentists at large. As these laboratories have attracted more and more patronage, the owners thereof have become bolder and bolder. Nowadays they not only do work under the direction and instruction of the dentist, but they even offer to direct and instruct the dentist, and to decide upon the style of prosthetic substitutes which should be provided for patients whom they have never

## ITEMS OF INTEREST

seen. These laboratory men who, in the past, were but mechanical assistants, now have assistants in their own laboratories; and oh! the shame of it! graduate dentists attend dental society meetings and crowd around tables where some assistant of a laboratory proprietor is offering a clinic.

In time these dental laboratories grow rich enough to afford to publish illustrated catalogues, in which are pictured various types of dentures, bridgework and crowns.

More lately, as a sort of "side line," these laboratory catalogues announce that regulating and retaining appliances may be obtained. All that a dentist is asked to furnish is a plaster cast of the mouth to be treated. There are many offenders, and it is high time that the profession at large and the orthodontists in particular should awaken to the seriousness of the situation. Again we say, there are many offenders, and if we now particularize it is only because in the latest catalogue the announcement and proposition seems more glaringly defiant of the rights of the patient than any other that we have seen. Here is the proposal:

### **Teeth Regulated in Absentia.**

"Briefly stated, our system is this: You send us your impression—the ordinary plaster or compound impression, and a wax bite, as shown in Illustration No. 1. When this model is received at our office we decide upon the correct appliance to accomplish the result you desire. Our experts then make the appliance. Every wire is bent to correct shape, every band fits the natural contour of the tooth. Note Illustration No. 2. When you receive the appliance you need only to place it in the patient's mouth. There are no wires to be bent, no bands to be shaped, nor any adjusting to be done in the patient's mouth. We also supply the necessary retaining appliance to be used after the treatment for irregularity is completed, as shown in Illustration No. 3. Specific instructions go with every appliance."

### **Orthodontia a Difficult Art.**

During the past twenty years it has become more and more apparent that the regulation of teeth is an art in itself; an art requiring years of study and experience to enable the practitioner to become an expert diagnostician, to say nothing of his acquiring the skill to actually treat and then retain a case.



No man, dentist or orthodontist, competent to treat a case, would forward casts to a supply house, permit said supply house to decide upon the style of appliance to be used, and then proceed to adjust the appliances and to treat the case under directions furnished with the apparatus. This cannot be denied.

To whom, then, is the above proposition addressed? Evidently to dentists who wish to practice orthodontia, but who have neither the experience nor the knowledge that would enable them to make a diagnosis and choose their own appliances, but who, nevertheless, for the sake of the fee, are willing to experiment upon innocent children with appliances furnished to them solely for the money that is in it and without regard to the possible damage that may be done to the patients. This is not only unprofessional; it is unmoral.

Let us analyze the proposition:

**The Proposition  
Analyzed.**

"You send us your impression—the ordinary plaster or compound impression, and wax bite, as shown in Illustration No. 1."

Illustration No. 1 is a modeling compound impression of an upper jaw. Evidently this is all that is required, because with it the dentist is asked to send a wax bite. Will the reader try to conjure up the casts produced from the "ordinary plaster or compound impression and a wax bite"? Very few besides the most skillful orthodontists can produce an impression from which anything approaching an accurate reproduction of the teeth can be obtained, and not one of these skillful orthodontists would for a moment consider using bands made on such a cast, however perfect, without adjustment on the teeth themselves. But this supply house, without access to the patient, and with the ordinary impression furnished by the dentist, continues the promise as follows:

"When this model (they call it a model now) is received at our office, we decide upon the correct appliance to accomplish the result you desire."

Just think of that! Without seeing the patient, and evidently without knowing whether the dentist be competent or incompetent, the supply house "decides upon the appliance needed."

This is a distinct admission that the supply house makes the diagnosis, and making a diagnosis is practicing dentistry. It happens that





## ITEMS OF INTEREST

in connection with this particular supply house there are one or two legally licensed dentists, so that what they are doing may be legal. But if legal, the statute of that State should be at once amended, for it should not be legal to diagnose cases and outline treatment which may have the direst results, when the diagnostician does not see the patient at all.

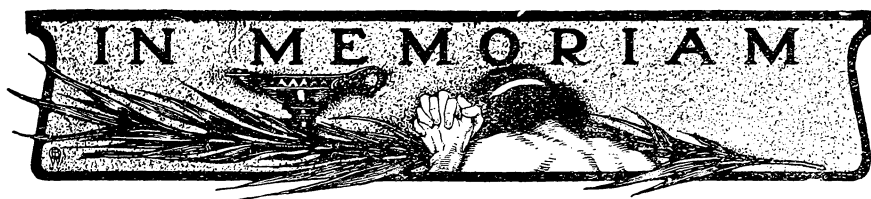
We are next told that every band fits the natural contour and that the whole appliance may be adjusted to the mouth without alteration. If this can be done, especially on such models as the average dentist is constantly exhibiting to orthodontists when seeking advice, then verily the most expert orthodontists in this country have much to learn, because all of them consider it necessary to adjust and fit bands directly to the natural teeth.

Next we have the promise to supply retainers. Whether these retainers are planned by the dentist, or by the supply house, is not definitely stated, but the presumption is that the latter course is the one followed. Finally we learn that "Specific instructions go with every appliance."

How degrading all this must be to the conscientious orthodontist! After years of study, and struggles over many disappointing results which have followed faithful efforts, suddenly to learn that the regulation of teeth is so simple that any dentist may send an impression of one jaw and a wax bite and receive by parcel post an appliance that will need no adjusting and which will obtain the desired results, after which a retaining device may be had in a subsequent mail.

If the practice of regulating teeth in this manner be legal, then the sooner our statutes be amended so as to make it illegal the better—the better for the innocent little patients.

Perhaps it is only fair to add that this supply house is a reputable concern which furnishes appliances and parts of appliances of a high type, which are quite serviceable when chosen, assembled and used by a competent orthodontist. In undertaking to construct appliances in the manner outlined they are merely following the example which has been set by others, and consequently they are no more to blame than are the others who are following the same methods. This, however, does not militate against the fact that the whole system is wrong and should be prohibited by law.



### **Dr. Charles H. Meeker.**

Dr. Charles A. Meeker, of Newark, N. J., died September 8, 1913, at the Homeopathic Hospital in that city.

Dr. Meeker had been ailing for some months, and a diagnosis was made which necessitated an operation for gall stones; 136 of these calculi were removed, and at first it seemed that the operation would result successfully. Unfortunately, the reparative energy seemed to be entirely absent, and Dr. Meeker grew weaker day by day. Two additional operations were found necessary, but were made in vain.

Dr. Meeker was born July 13, 1846, at Troy, N. Y., but practically his entire life was spent in the city of Newark, moving there when he was but a boy. He was a descendant of the Meeker family which was identified with the foundation of Newark in 1666. He was educated in the public schools and began the practice of dentistry without the advantages which the students of to-day have. Dr. Meeker was a good dentist and a successful one, enjoying the confidence and support of a clientele among the best people of Newark; but above all else he was a man of great executive ability, and for more than forty years devoted his talents to the advancement of his profession in every direction.

He was prominent in the organization and management of his local society, of his State society, of the State Board of Dental Examiners and of the National Board of Dental Examiners, and it was largely through his efforts that the various dental statutes of New Jersey were enacted.

The New Jersey State Dental Society was organized in 1870, and Dr. Meeker became a member at the second meeting in 1871. In 1875 he was elected Secretary, which position he retained until the meeting in 1912, with the exception of one year when he served as President. Thus he served as Secretary for thirty-six years. He was one of the founders of the Central Dental Association of Northern New Jersey, of which he was President for one year, Secretary for thirty-six years and Treas-

## ITEMS OF INTEREST

urer for thirty years. He was a member of the State Board of Dental Examiners and Secretary for eleven years, beginning with the year 1893. He was also for many years a member and Secretary of the National Association of Dental Examiners. He was a member of the Odontological Society of New York City, the New York Institute of Stomatology of New York City, American Academy of Dental Surgery, and a non-resident member of the First District Dental Society of New York.

He was always active in the suppression of the illegal practice of dentistry, and to this end served on numerous committees which appealed to the Legislature for improved dental statutes, and it was through Dr. Meeker that the present State law was passed which enables municipalities to establish free dental clinics. He was personally instrumental in the establishment of the Newark Free Dental Clinic, now successfully in operation. He also established an independent dental journal known as *The Scrap Book*, which he published entirely at his own expense for a number of years and which had a wide circulation throughout the country.

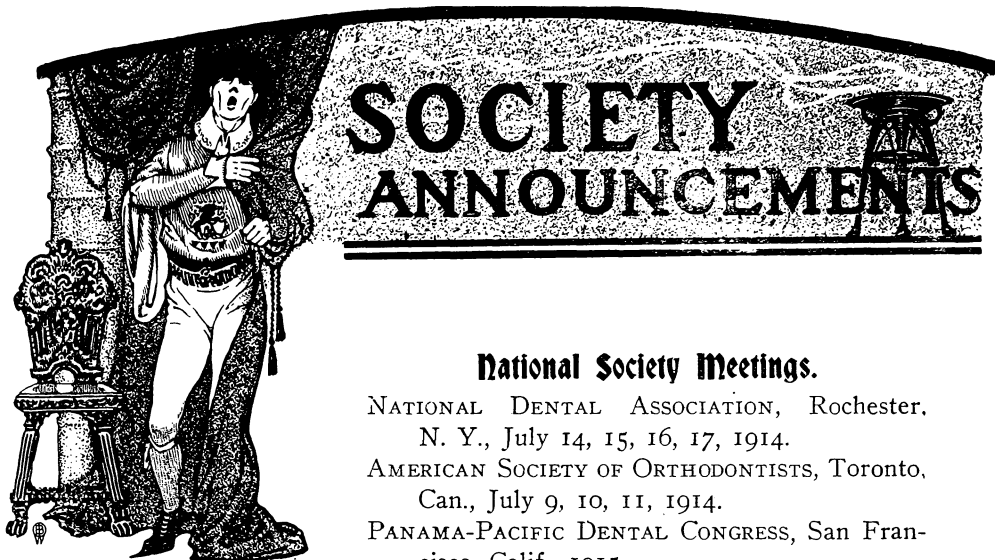
In addition to his professional work, Dr. Meeker was connected with numerous other organizations, including the Home Dramatic Association, the Garrick Club, Essex Art Association, Newark Camera Club, National Arts Club, Lotos Club of New York, the Old Newark Press Club, and the Newark Museum Association.

He was a lover of art and a friend of artists, and owned some good canvases. He was not himself a painter, but he produced a number of very artistic pictures with the camera.

Dr. Meeker was one of the kindest and best of men, and, above all things, he was a friend. His friendship, once bestowed upon a man or woman, was never withdrawn except for just cause, and his whole life was one long example of loyalty; loyalty to his clientele, loyalty to his profession at large, loyalty to his State and local societies, and, above all things, loyalty to his friends.

Dr. Meeker lived at No. 29 Fulton Street. His wife survives him.

Funeral services were held at his residence on the evening of September 11th, and prominent men from all over the State and from Brooklyn and New York were present to pay their last respects.



### **National Society Meetings.**

NATIONAL DENTAL ASSOCIATION, Rochester,  
N. Y., July 14, 15, 16, 17, 1914.

AMERICAN SOCIETY OF ORTHODONTISTS, Toronto,  
Can., July 9, 10, 11, 1914.

PANAMA-PACIFIC DENTAL CONGRESS, San Francisco,  
Calif., 1915.

### **Panama-Pacific Dental Congress.**

#### **Debuture and Membership Certificates**

Beginning on the last Monday in August, 1915, and continuing for ten consecutive days the Panama-Pacific Dental Congress will offer the dental profession what promises to be the greatest gathering of dentists ever held in the history of the world. International in character, all nations have been invited to participate. The best dental talent the world affords will be represented on the program in paper and clinic, noting the remarkable progress of our profession from the dark ages up to the present. The dental manufacturing and specialty companies will be there with the greatest exhibit ever shown. No dentist can afford not to avail himself of this opportunity to place himself in sympathetic touch with this movement originating in the West and promoted by Western enterprise.

To promote this great congress of dentists ample time was essential to complete a working organization, and to start an effective campaign which would guarantee the carrying out of the extensive program mapped out. It is expected the membership fee (\$10) will pay the expense of the congress, but to meet the current expenses which are entailed in an affair of this magnitude, it was decided to incorporate



under the laws of California and issue Debenture Certificates to the total of three thousand, bearing a face value of \$10 each.

These certificates are now offered to the profession at large and may be paid for in two installments, full payment must be made by May 1, 1914. No promises can be made that dividends will be paid or that a return will be made of the money raised from the sale of these debentures, but it is reasonable to suppose that after all the expenses of the congress are paid there will be funds sufficient in the treasury to reimburse those who have been loyal and enterprising enough to subscribe and make this congress possible.

We count on the loyalty of the West to the West, and at this greatest of opportunities to hold a dental congress in San Francisco when all the world will be going to California at the official opening of the Panama Canal, it behooves our dentists to get in line and identify themselves with this congress by buying one or more shares, and each and everyone a membership. A membership is \$10 and is separate and apart from the debenture. Those wishing for debentures or memberships should address all communications to

ARTHUR M. FLOOD, Secretary.

240 Stockton St., San Francisco, Cal.

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### **Notice to Americans Who Will Attend the International Dental Congress in London.**

It has been thought advisable to arrange so that those who wish to attend the International Dental Congress in London next summer may go on the same steamer if they desire.

The plan is to arrange to sail on a steamer leaving New York immediately after the closing of the National Dental Meeting, which will be held in Rochester, New York, early in July.

Those who wish to join the party sailing at that time will please notify me at 560 Fifth Avenue, New York City, at as early a date as possible, in order that the steamship companies may know how many to provide for.

HERBERT L. WHEELER,  
Transportation Committee  
of the National Dental Association.



## **Third and Fourth District Dental Societies. Union Meeting.**

The Third and Fourth District Dental Societies are to hold a convention in Schenectady, October 21st and 22d, that will be one of the most interesting held in this section in some time. It will be full of snappy and up-to-the-minute papers and clinics, which will more than repay you to attend. So mark the dates off on your appointment book now, October 21st and 22d, "I am going to Schenectady."

Dr. Crandall, of Spencer, Iowa, is not only going to tell in an essay all there is to be told about amalgams, its preparation, mixing, insertion, and the preparation of cavities for amalgams, but he is going to supervise a clinic in which several dentists are going to prepare cavities and insert amalgam. The object of this clinic will be to improve our methods of working amalgam by pointing out, step by step, what should be done and what should not be done.

Dr. A. J. Bedell, of Albany, is to have a most interesting paper, telling from his own observations the effect that diseased dental conditions have on the eye and ear.

Dr. W. Ray Montgomery, of Buffalo, is to read a paper and give a clinic on "The Indirect Method of Casting."

Dr. M. J. Schamberg, of New York, is to read an essay, "The Diagnosis of Septic Foci About the Mouth and the Pernicious Influence of These Lesions Upon the General Health." In addition to the papers there will be a big line of manufacturers' exhibits.

On Tuesday evening, October 21st, the banquet will be held, where we expect a good array of speakers, plenty to eat and good fellowship.

Plan now to come, as we want to make this a banner meeting.

More notices and a program will follow later. All this on October 21st and 22d, at Schenectady, Third and Fourth Districts.

A. S. MOORE,

GEORGE WOOLSEY,

R. H. WHITMYRE,

Executive Committee.

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## **Northeastern Dental Association.**

The nineteenth annual meeting of the Northeastern Dental Association is to be held in Fort Guard Armory Hall, Hartford, Conn., October 14, 15 and 16, 1913.

The committee of the association promises a remarkably good meeting of essays, clinics and exhibits well worthy a good attendance. All

## ITEMS OF INTEREST

ethical members of the profession are invited to attend and those eligible are desired to join the association and help it along.

EDGAR O. KINSMAN, Secretary,  
5 Boylston St., Cambridge, Mass.

FREDERIC T. MURLLESS, JR.,  
President.

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### Annual Registration in Indiana.

All persons legally registered for the practice of dentistry in Indiana are required, under Section 9 of the new statute, to register with the Secretary of the State Board of Dental Examiners, *annually*, on or before the 31st day of December. The annual registration fee is \$1. Blanks will be mailed to each qualified dentist on December 1st.

This act applies to those dentists who have left the State or are now not in practice, the penalty being the revocation of said persons' license within ninety days upon failure to re-register. The annual registration certificate is necessary to entitle one to practice.

F. R. HENSHAW, D.D.S., Secretary and Treasurer.  
507-8 Pythian Bldg., Indianapolis, Ind.

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### Dental Commissioners of Connecticut.

The Dental Commissioners of the State of Connecticut hereby give notice that they will meet at Hartford on Thursday, Friday and Saturday, November 13, 14 and 15, 1913, to examine applicants to practice dentistry. Application blanks, rules, etc., will be mailed by the Recorder upon request.

By order of the Commission,

EDWARD EBERLE, Recorder.

902 Main St., Hartford, Conn.

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### Maryland State Board of Dental Examiners.

The Maryland Board of Dental Examiners will meet for examination of candidates for certificates, November 6 and 7, 1913, at the Baltimore College of Dental Surgery, Baltimore, at 9 A.M.

For application blanks and further information apply to

F. F. DREW, Secretary.

701 N. Howard St., Baltimore, Md.



### **Michigan State Board of Dental Examiners.**

The next regular meeting of the Michigan State Board of Dental Examiners will be held at the Dental College, Ann Arbor, commencing Monday, November 10th, and continuing through the 15th. For application blanks and full particulars address

F. E. SHARP, Secretary.

Port Huron, Mich.

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### **Vermont State Dental Society.**

The thirty-seventh annual meeting of the Vermont State Dental Society was held in Burlington, Vt., May 21, 22 and 23, 1913. There was a good attendance and the meeting was a very successful one. The meeting next year will be held at Rutland, Vt.

The officers elected for the ensuing year are as follows: Dana E. Dearing, South Royalton, president; Thomas Mound, Rutland, first vice-president; W. H. McGoff, Montpelier, second vice-president; P. M. Williams, Rutland, secretary; W. H. Munsell, Wells River, treasurer. Executive committee: H. M. Smith, Lyndonville; G. E. Partridge, Burlington; W. R. Pond, Rutland.

P. M. WILLIAMS, Secretary.

Rutland, Vt.

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### **New Jersey State Dental Society.**

At the last meeting of the New Jersey State Dental Society, held in Asbury Park, July, 1913, the following officers were elected:

President, Wm. H. Gelston, D.D.S., Camden, N. J.; vice-president, Walter F. Barry, D.D.S., Orange, N. J.; treasurer, Chas. F. Jones, D.D.S., Elizabeth, N. J.; secretary, John C. Forsyth, D.D.S., 430 E. State St., Trenton, N. J.

Executive Committee: Walter F. Barry, D.D.S., chairman; Henry Fowler, D.D.S., Harrison, N. J.; James I. Wolverton, D.D.S., Trenton, N. J.; Joseph Kussy, D. D.S., Newark, N. J.; Edwin W. Harlan, D.D.S., Jersey City, N. J.

Membership Committee: A. S. Burton, D.D.S., Asbury Park, N. J.; Franklin Rightmire, D.D.S., Paterson, N. J.; J. F. Crandall, D.D.S., Atlantic City, N. J.; A. L. Westcott, D.D.S., Atlantic City, N. J.; Dr. H. B. Van Dorn, Red Bank, N. J.

JOHN C. FORSYTH, D.D.S., Secretary.

430 E. State St., Trenton, N. J.





### **Indiana State Board of Dental Examiners.**

The next meeting of the Indiana State Board of Dental Examiners will be held in the State House, Indianapolis, November 10th to the 15th. All applicants for registration in the State will be examined at this time. No other meeting will be held until June, 1914. For further information apply to

F. R. HENSHAW, D.D.S., Secretary.  
507-8 Pythian Bldg., Indianapolis, Ind.

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### **Massachusetts Board of Registration in Dentistry.**

A meeting of the Massachusetts Board of Registration in Dentistry will be held in Boston, October 22, 23 and 24, 1913. For applications and further information apply to

DR. G. E. MITCHELL, Secretary.  
14 Water St., Haverhill, Mass.

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### **Illinois State Board of Dental Examiners.**

The semi-annual meeting of the Illinois State Board of Dental Examiners, for the examination of applicants for a license to practice dentistry in the State of Illinois, will be held at the College of Dentistry, University of Illinois, corner Honore and Harrison Streets, Chicago, Ill., beginning Monday, November 10, 1913, at 9 A.M. All applications, together with fees, twenty-six dollars (\$26), must be filed with the Secretary at least five (5) days prior to date of examination. Address all communications to

O. H. SEIFERT, Secretary.  
49-50 Ridgely Bank Bldg., Springfield, Ill.